CALS TEST NETWORK

CTN Report
90-008

UCID 21899

The CALS Test Network MIL-D-28000 Class I Reference Illustration Packet Revision A

January 19, 1990

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

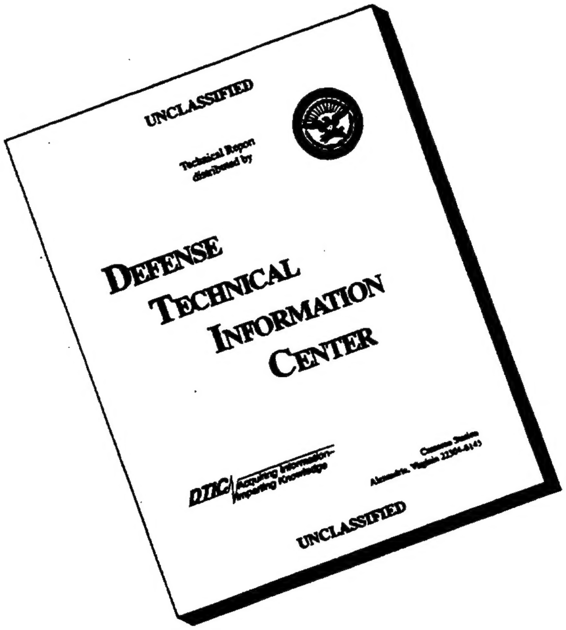
19960822 109

Prepared for
Air Force Logistics Command
AITI Project

Lawrence Livermore National Laboratory

DTIC QUALITY INSPECTED 3

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

CTN Report
90-008

UCID 21899

The CALS Test Network MIL-D-28000 Class I Reference Illustration Packet
Revision A

January 19, 1990

Prepared by
Lawrence Livermore
National Laboratory

LLNL Contact
Jill Farrell
(415) 423-6348

AFLC Contact
Mel Lammers
(513) 257-3085

Prepared for
Air Force Logistics Command
AITI Project

Lawrence Livermore National Laboratory

DTIC QUALITY INSPECTED 3

DISCLAIMER

This document was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor the University of California nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or the University of California, and shall not be used for advertising or product endorsement purposes.

This report has been reproduced
directly from the best available copy.

Available to DOE and DOE contractors from the
Office of Scientific and Technical Information
P.O. Box 62, Oak Ridge, TN 37831
Prices available from (615) 576-8401, FTS 626-8401.

Available to the public from the
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Rd.,
Springfield, VA 221f

Price Code	Page Range
A01	Microfiche
Papercopy Prices	
A02	1- 10
A03	11- 50
A04	51- 75
A05	76–100
A06	101–125
A07	126–150
A08	151–175
A09	176–200
A10	201–225
A11	226–250
A12	251–275
A13	276–300
A14	301–325
A15	326–350
A16	351–375
A17	376–400
A18	401–425
A19	426–450
A20	451–475
A21	476–500
A22	501–525
A23	526–550
A24	551–575
A25	576–600
A99	601 & UP

Work performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract W-7405-Eng-48.

Contents

Preface

This CALS Test Network MIL-D-28000 Class I Reference Illustration Packet is a document which will have periodic updates. This will occur as the reference illustrations and their associated procedures, scripts, and files are corrected for oversights and/or are updated to new versions of the standards.

I acknowledge Ben Kassel of the CALS Navy Test Bed at the David Taylor Research Center for preparing the initial versions of the IENTITY test case and scripts. I also acknowledge McDonnell Aircraft Company for allowing the CALS Test Network to modify and use the LGTABLE illustration.

Please use the information contained in this packet at your own risk. Send recommendations for change or comments about the content to:

Jill Farrell
CALS Test Network, IGES Lead Analyst
Lawrence Livermore National Laboratory
P.O. Box 808 L-542
Livermore, CA 94550

Abstract

This CALS Test Network MIL-D-28000 Class I Reference Illustration Packet contains the information needed to conduct tests of the Technical Publication Subset, Class I, of the military specification MIL-D-28000 using IGES processors. The material is intended to demonstrate industry and government's use of MIL-D-28000 in accordance with the CALS initiative. The CALS Test Network (CTN) is the organization tasked with demonstrating this digital data interchange among industry and government and uses this packet during CTN testing. The packet is, furthermore, used by CTN members to conduct self-tests of their companies' abilities to utilize CALS data. The results derived from this testing will allow the CTN to suggest modifications to drafting techniques, vendors' IGES processors, the IGES specification, and most importantly, the MIL-D-28000 military specification.

The CALS Test Network MIL-D-28000 Class I
Reference Illustration Packet

1.0 Introduction

The DoD Computer-aided Acquisition and Logistic Support (CALS) Test Network (CTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A (1840A) and its companion suite of military specifications. The CTN is a DoD sponsored confederation of voluntary participants from industry and government, managed jointly by the technical staff at Air Force Logistics Command (AFLC) and Lawrence Livermore National Laboratory (LLNL). The objective of the CTN tests is to demonstrate and evaluate the interchange and functional use of digital technical information between industry and government using the CALS Standards.

The IENTITY and the LGTABLE reference illustrations described herein are used by the CALS Test Network during user application testing of IGES data. They, furthermore, are used by CTN members during self-tests of their digital data transfer abilities. IGES is the Initial Graphics Exchange Specification used for interchanging graphical data between dissimilar computer aided design (CAD) and technical publication systems. Specifically, these reference illustrations demonstrate the use of the IGES entities identified in the Technical Publication Subset, Class I, of the military specification, MIL-D-28000. In addition to demonstrating the use of this military specification and subset, these illustrations also allow the CTN to demonstrate the use of MIL-D-28000's parent document, MIL-STD-1840A. MIL-STD-1840A standardizes the delivery "envelope" used by organizations to exchange digital forms of technical information.

2.0 Content of the Reference Illustration Packet

The CTN MIL-D-28000 Class I Reference Illustration Packet you are currently reading contains a set of reference material. This packet contains the pieces of information needed to execute a test using a vendor's IGES processors. It contains:

1. Procedures to follow to conduct a pre-processor test; pre-processing is the translation from a graphics system to an IGES file.
2. A generation script (a set of instructions) to follow to create the IENTITY illustration on any graphics system.

3. Procedures to follow to conduct a post-processor test; post-processing is the translation from an IGES file to a graphics system.
4. The IGES files on a 9-track tape in MIL-STD-1840A format of both the IENTITY and LGTABLE reference illustrations to post-process into the graphics system.
5. Evaluation scripts (sets of questions) to complete after the IENTITY and LGTABLE illustrations have appeared on the screen after post-processing.
6. Plots of the IENTITY and LGTABLE illustrations.
7. A paper printout of the IGES files for both the IENTITY and LGTABLE illustrations.
8. Entity listing and counts for both the IENTITY and LGTABLE illustrations.

The above-mentioned pieces of information are contained in the attachments labeled A through K which follow this general introduction.

3.0 Content and Creation of the Reference Material

3.1 The IENTITY Illustration

The IENTITY illustration is comprised of all the geometric, annotation, and structure IGES entities identified in the MIL-D-28000 Class I subset. The illustration is organized such that the entities reside individually by entity and form number within one box of a grid. This box is then labeled to show which entity it should contain. All entities are model mode entities, two-dimensional, and contained on layer zero as MIL-D-28000 Class I requires. The drawing, containing a single view, is B-sized.

3.2 The LGTABLE Illustration

The LGTABLE graphic is an example of an actual technical publication illustration that completely complies to MIL-D-28000 Class I. It does not contain every entity identified in MIL-D-28000 Class I, however, it does contain a good sampling of the frequently used entities such as lines, circles, splines, text, and fill. Again, all entities are model mode, two-dimensional, and located on layer zero. The single view is contained on an A-sized drawing.

The LGTABLE illustration is included in this packet to be used during post-processor testing only. Although very useful as a sample illustration, pre-processor testing information was not deemed appropriate for LGTABLE because of the illustration's size and complexity.

3.3 Development of the IGES Files

The IENTITY and LGTABLE illustrations were drafted on a CAD system, then pre-processed into IGES files. Because the pre-processed IGES files did not completely conform to IGES Version 4.0 and MIL-D-28000, did not include all desired Class I entities, and included unwanted volunteer entities, the files were hand edited. During this hand editing, the criteria discussed in the "Guide to Developing IGES Test Cases" written by the IGES Test Case Subcommittee of the National IGES/PDES Committee was adhered to where ever possible. This hand editing produced IGES files that incorporate all MIL-D-28000 Class I entities and pass several IGES analyzers with no accountable errors. The analyzers referred to are the IGES Model Testing System, the IGES Data Analysis Company Parser/Verify/View packages, and the Rosetta Technologies, Inc. PreVIEW software.

After the IGES files were thoroughly checked, MIL-STD-1840A headers were placed on the IGES files. Next, MIL-STD-1840A declaration files were written for each file. Lastly, all files were copied to a 9-track tape at MIL-STD-1840A-required formats.

3.4 The Scripts

This reference illustration packet contains two different sets of scripts. The generation script describes how to create the reference illustration on a graphics system during the pre-processor test. It is designed to be generic enough to allow illustration generation on any system. The evaluation scripts describe how to evaluate the graphical model that appears during a post-processor test. These scripts ask questions that try to address DoD's present requirements for a technical publication illustration digital transfer.

3.5 The Procedures

The CTN's test procedures contained herein discuss running tests on the pre-processors and post-processors separately. These procedures follow one proposed by the National IGES/PDES Organization's Testing Subcommittee. Other procedures were derived from available hardware and software resources and past experience.

Deviations and expansions from these procedures are encouraged as required by one's needs. An example of a deviation is to perform an end-to-end test with this reference data. These procedures do not address end-to-end testing because this type of testing is usually conducted with a user's actual illustrations, not reference illustrations. An end-to-end test with this packet's reference data could easily be conducted by, first, following the pre-processor procedures and, second, sending that pre-processed IGES file through the post-processor procedures. As stated, deviations of this type are possible and should be used as experience and requirements dictate.

4.0 Conclusion

By following the procedures described in this CTN MIL-D-28000 Class I Reference Illustration Packet and by referring to the scripts, plots, and data lists also contained within, one can examine technical publication illustration digital transfers using IGES and MIL-D-28000. This packet does not validate a vendor's conformance to MIL-D-28000 Class I, but instead allows the CTN analysts and CTN members to demonstrate industry/government's use of the MIL-D-28000 specification in accordance with the CALS initiative.

Attachment A

Procedures for Executing the CTN Reference Illustration IGES Pre-processor Test

Procedures for Executing the CTN Reference Illustration IGES Pre-processor Test

1. Follow the "Generation Script" to create the IENTITY reference illustration on your native graphics system to the system's best abilities. Record any problems encountered or deviations taken while following the generic script on the attached incident report sheets. Use additional sheets if necessary.

   Try to create the entities on the graphics system so that the desired IGES entity is pre-processed into the IGES file. The scripts specify which entities are the desired entities. To accomplish this, we recommend that these scripts be followed in the presence of both a knowledgeable system operator and an experienced IGES person, both people preferably supplied by the graphics system vendor itself. This will insure the best transfer possible with a particular vendor's software.

   Furthermore, although the graphics system may not support the "desired" IGES entity, try to match the appearance of the illustration using other entities allowed in MIL-D-28000 Class I.

2. Pre-process the illustration into the IGES format using any available switches to create a MIL-D-28000 Class I file. Place the required MIL-D-28000 Class I Start Section information into the file. Record any errors the system reports.

3. Prepare a MIL-STD-1840A compliant 9-track tape containing the IENTITY IGES file and its corresponding declaration file. Be sure to include the proper MIL-STD-1840A header information to the IGES file and copy all files to the tape at the appropriate MIL-STD-1840A format. Record any difficulties experienced.

4. If you are conducting a self-test, collect the tape and all incident reports from steps 1, 2, and 3 for evaluation. If you pre-arranged a formal CTN test and obtained CTN approval, send the tape and all incident reports from steps 1, 2, and 3 to:

   CALS Test Network, IGES Testing
   Lawrence Livermore National Laboratory
   P.O. Box 808, 7000 East Ave., L-542
   Livermore, CA 94550

   Refer questions to Jill Farrell at (415) 423-6348.

5. Evaluate the data. We at the CALS Test Network will and anyone conducting a self-test should:

    a. Check the tape for proper MIL-STD-1840A formats.
    b. Check the tape for appropriate MIL-STD-1840A declaration information.
    c. Check the IGES file for appropriate MIL-STD-1840A header information.
    d. Examine the IGES file visually for format and content.
    e. Parse and verify the IGES file using various IGES analyzers to check for IGES syntax errors and illegal MIL-D-28000 Class I constructs.
    f. View the graphics the IGES file generated with IGES viewing packages.
    g. Pinpoint any file, IGES processor, IGES standard, and/or military standard inefficiencies using the above software and personal knowledge.
    h. Bring the findings to the appropriate parties for correction (either vendor, graphics system operator, IGES Committee, or the military standard's sponsor).
    i. CTN will publicly publish results of CTN findings.

Attachment B

IENTITY Generation Script

I-ENTITY Generation Script

Part) Create a part named "IENTITY".

Drawing) If the CAD system allows for a separate drawing file within the part, create a B-sized drawing with its origin in the lower left-hand corner.

INSERT ALL ENTITIES WHILE WORKING IN THE TOP VIEW CONSTRUCTION PLANE. THIS CONSTRUCTION PLANE OR REQUIRED COORDINATE ORIENTATION IS SHOWN ON THE B-SIZED I-ENTITY PLOT. ALL MODEL COORDINATES (X,Y,Z) REFERRED TO IN THIS SCRIPT ARE BASED ON THIS COORDINATE ORIENTATION. ALL UNITS ARE INCHES.

CREATE THE FOLLOWING ENTITIES ON LEVEL ZERO AND IN THE DEFAULT COLOR OF THE CAD SYSTEM. INSERT ALL ENTITIES IN MODEL MODE. IN EVERY INSTANCE, TRY TO CREATE THE ENTITY ON THE CAD SYSTEM SUCH THAT UPON PRE-PROCESSING THE PART INTO IGES, THE DESIRED ENTITY AND FORM NUMBER APPEAR IN THE IGES FILE. THE DESIRED ENTITY AND FORM NUMBERS ARE THOSE NUMBERS ALONG THE LEFT-HAND MARGIN PRECEDING THE CREATION OR INSERTION COMMAND.

Grid lines)

Insert the following grid lines:

a)	from	(0.5,10.5,0.0)	to	(0.5,0.5,0.0)
b)		(2.5,10.5,0.0)		(2.5,0.5,0.0)
c)		(4.5,10.5,0.0)		(4.5,0.5,0.0)
d)		(6.5,10.5,0.0)		(6.5,0.5,0.0)
e)		(8.5,10.5,0.0)		(8.5,0.5,0.0)
f)		(10.5,10.5,0.0)		(10.5,0.5,0.0)
g)		(12.5,10.5,0.0)		(12.5,0.5,0.0)
h)		(14.5,10.5,0.0)		(14.5,0.5,0.0)
i)		(16.5,10.5,0.0)		(16.5,0.5,0.0)
j)		(0.5,0.5,0.0)		(16.5,0.5,0.0)
k)		(0.5,2.5,0.0)		(16.5,2.5,0.0)
l)		(0.5,4.5,0.0)		(16.5,4.5,0.0)
m)		(0.5,6.5,0.0)		(16.5,6.5,0.0)
n)		(0.5,8.5,0.0)		(16.5,8.5,0.0)
o)		(0.5,10.5,0.0)		(16.5,10.5,0.0)

100) Create a circular arc centered at (1.5,9.5,0.0) with a radius of 0.5 inches and traced out counterclockwise from 270 to 180 degrees.

102)
- a) Insert a line from (3.0,9.5,0.0) to (3.0,10.0,0.0).
- b) Insert a line from (3.0,10.0,0.0) to (3.5,9.5,0.0).
- c) Insert a cubic parametric spline through the points (3.5,9.5,0.0), (4.0,9.25,0.0), and (4.25,9.25,0.0).
- d) Group the 2 lines and the spline together to form one entity. Use the composite curve entity (IGES entity 102) if your system supports it.

104 F0) a) Insert a conic with the general equation in standard form:

$$4x^2 + 16y^2 - 1 = 0$$

b) Rotate this conic 90 degrees clockwise and center it around (5.5,9.5,0.0). This conic is then an ellipse with a major axis of 1.0 inches (paralleling the vertical axis) and a minor axis of 0.5 inches.

104 F1) Insert an ellipse centered at (7.5,9.5,0.0) with a major axis of 1.0 inches and a minor of 0.5 inches. Position the ellipse so that the major axis parallels the horizontal axis. The general equation of this conic centered at (7.5,9.5,0.0) in standard form is:

$$4x^2 + 16y^2 - 1 = 0$$

104 F2) Insert a horizontal hyperbola centered at (9.75,9.5,0.0) such that only the left side is visible and that it sweeps 0.25 inches on either side of the axis of symmetry toward the negative x-direction. The hyperbola's transverse axis length is 0.5 inches and conjugate axis length is 0.25 inches. Refer to the plot for a pictorial description. The general equation of this conic rotated 180 degrees about its tip with its tip at (9.5,9.5,0.0) in standard form is:

$$16x^2 - 64y^2 - 1 = 0$$

104 F3) Insert a vertical parabola with a vertex of (11.5,9.5,0.0) and the focus point at (11.5,9.75,0.0). Extend the parabola into the positive y-direction to make it 0.25 inches tall. Refer to the plot for a pictorial description. The general equation of this conic rotated 90 degrees counterclockwise about (11.5,9.5,0.0) in standard form is:

$$y^2 - x = 0$$

106 F11) a) Insert a circular arc centered at (13.5,9.25,0.0) with a radius of 0.5 and traced out counterclockwise from 0 to 180 degrees.

b) Transform the circular arc into a "linear planar curve" entity (IGES entity 106 Form 11) - a curved string of many short straight segments.

106 F63) Create a rectangle or a "simple closed area" entity (106 Form 63) consisting of one entity between the points:

(15.0,9.25,0.0)
(15.0,10.0,0.0)
(16.0,10.0,0.0)
(16.0,9.25,0.0)

110) Create a line from (1.5,7.0,0.0) to (1.5,8.0,0.0).

112) Create a cubic parametric spline curve through the points:

(3.0,8.0,0.0)
(3.75,7.75,0.0)
(4.0,7.5,0.0)
(4.0,7.25,0.0)
(3.75,7.0,0.0)
(3.5,7.0,0.0)
(3.25,7.25,0.0)
(3.25,7.5,0.0)
(4.0,8.0,0.0).

124 F0) a) Create a temporary coordinate system (construction plane) defined by the transformation matrix shown below. This coordinate system corresponds to a construction plane rotated 90 degrees counterclockwise with its origin at (5.5,7.5,0.0).

$$\begin{matrix} 0.0 & 1.0 & 0.0 & 5.5 \\ -1.0 & 0.0 & 0.0 & 7.5 \\ 0.0 & 0.0 & 1.0 & 0.0 \end{matrix}$$

b) Insert an arc centered at (0.0,0.0,0.0) swept between 0 and 180 degrees with a radius of 0.5 inches.

c) Return to the original coordinate system.

126 F0) Insert a rational b-spline curve through the points: (7.0,7.0,0.0), (7.0,7.5,0.0), (7.0,8.0,0.0), (7.5,8.0,0.0), (8.0,8.0,0.0), (8.0,7.5,0.0), (8.0,7.0,0.0).

126 F1) Insert a rational b-spline curve through the points: (9.0,7.5,0.0), (10.0,8.0,0.0). This curve approximates a line.

126 F2) Insert a rational b-spline curve through the points: (12.0,7.5,0.0), (11.9045,7.79389,0.0), (11.6545,7.97553,0.0), (11.3455,7.97553,0.0), (11.0955,7.79389,0.0), (11.0,7.5,0.0). This curve approximates an arc.

126 F3) Insert a rational b-spline curve through the points: (14.0,7.5,0.0), (13.8528,7.67713,0.0), (13.6208,7.74259,0.0), (13.3792,7.74259,0.0), (13.1472,7.67713,0.0), (13.0,7.5,0.0). This curve approximates an elliptical arc.

126 F4) Insert a rational b-spline curve through the points: (16.0,7.75,0.0), (15.8231,7.60439,0.0), (15.6138,7.51295,0.0), (15.3862,7.51295,0.0), (15.1769,7.60439,0.0), (15.0,7.75,0.0). This curve approximates a parabolic arc.

126 F5) Insert a rational b-spline curve through the points: (1.25,5.71651,0.0), (1.36619,5.64544,0.0), (1.4722,5.56046,0.0), (1.47214,5.43958,0.0), (1.36622,5.35451,0.0), (1.25,5.28349,0.0). This curve approximates an hyperbolic arc.

FOR THE FOLLOWING GENERAL NOTE ENTITIES (212), USE THE STANDARD BLOCK (OR DEFAULT) TEXT FONT, A TEXT HEIGHT OF 0.125 INCHES, AND A TEXT WIDTH OF 0.1 INCHES. SELECT THE TEXT ORIGIN (OF THE FIRST TEXT LINE) BOTTOM-LEFT-JUSTIFIED UNLESS OTHERWISE STATED.

212 F0) a) Insert the text string "SIMPLE" horizontally at (3.0,5.625,0.0).

b) Insert the text string "SIMPLE" vertically at (4.0,6.0,0.0). Change the text slant 30 degrees clockwise from the vertical axis. Change the text width to 0.147 inches for this text string.

212 F1) Insert the text "DUAL" and "STACK" as one text string such that the words are both left justified and the second word is displayed below the first. Place the origin of the text at (5.0,5.625,0.0).

212 F2) a) Insert the text "IMBEDDED" with the origin of the text string at (7.0,5.625,0.0).

b) Change the font of the middle three letters, "BED", of the text string to the IGES Font 1002. This will change the letters "BED" to the symbols "   ".

212 F3) Insert the text string "SSUPER" such that the origin is at (9.0,5.625,0.0) and the word "SUPER" is a superscript of "S".

212 F4) Insert the text string "SSUB" such that the origin is at (11.0,5.625,0.0) and the word "SUB" is a subscript of "S".

212 F5) Insert the text "S", "SUPER", and "SUB" as one text string such that the origin is at (13.0,5.625,0.0) and the word "SUPER" is a superscript of "S" and "SUB" is a subscript of "S".

212 F6) Insert the text "M", "STACK", and "LEFT" as one multi-lined text string such that the origin of the text string is at (15.0,5.75,0.0) and all words are left-justified to a common margin.

212 F7) Insert the text "M", "STACK", and "CENTER" as one multi-lined text string that is bottom-center-justified with the origin at (1.5,3.75,0.0).

212 F8) Insert the text "M", "STACK", and "RIGHT" as one multi-lined text string that is bottom-right-justified with the origin at (4.0,3.75,0.0).

212 F100) Insert a multi-lined text string that is bottom-left-justified with the origin at (5.0,3.5625,0.0) as follows:

```
   FRAC
S  ----
   TION
```

There are two spaces between the whole number part and the fractional part. The second string "FRAC" is a superscript of the first string "S", the third string "TION" is a subscript of the first string, and "----" is the fourth string.

212 F101) Insert a multi-lined text string with the origin of the first string at (7.0,3.8125,0.0) as follows:

```
      TO
DUAL  ---
       P

       BOT
STACK  ----
       TOM
```

There are two spaces between the whole number part and the fractional part. The second string "TO" is a superscript of the first string "DUAL", the third string "P" is a subscript of the first string, and "---" is the fourth string. The mixed numeral expression is positioned such that the fifth string "STACK" is displayed below the first string. The sixth string "BOT" is a superscript of the fifth string, and the seventh string is a subscript of the fifth string, and "----" is the eighth string.

212 F102) Insert a multi-lined text string with the origin at (8.65625,3.5625,0.0) as follows:

```
    BED          ACT
IM  ----  =  FR  ----
    DED          ION
```

There are two spaces between the whole number part and the fractional part. The second string "BED" is a superscript of the first string "IM", the third string "DED" is a subscript of the first string, and "----" is the fourth string. The fifth string " = " is a special character "i" using the IGES Font 1002. The mixed numeral is positioned such that the sixth string "FR" is displayed two spaces to the right of the fifth string. The seventh string "ACT" is a superscript of the fifth string, and the eighth string "ION" is a subscript of the fifth string, and "----" is the ninth string.

212 F105) Insert a multi-lined text string with the origin at (10.625,3.625,0.0) as follows:

```
            O
        T  ---
            P
    SUP
FR  ----
    SUB
            TT
        BO  ---
            OM
```

There are two spaces between the whole number part and the fractional part. The second string "SUP" is a superscript of the first string "FR", the third string "SUB" is a subscript of the first string, and "----" is the fourth string. The second mixed numeral is a superscript of the first, and consists of the following strings: The sixth string "O" is a superscript of the fifth string "T", and the seventh string "P" is a subscript of the fifth string, and "---" is the eighth string. The third mixed numeral is a subscript of the first, and consists of the following strings: The tenth string "TT" is a superscript of the ninth string "BO", the eleventh string "OM" is a subscript of the ninth string, and the twelfth string is "---"

230) a) Insert four lines from:

(13.0,3.0,0.0)	to	(14.0,3.0,0.0)
(14.0,3.0,0.0)		(14.0,4.0,0.0)
(14.0,4.0,0.0)		(13.0,4.0,0.0)
(13.0,4.0,0.0)		(13.0,3.0,0.0).

b) Utilize the "sectioned area entity" (230) to crosshatch between the lines. The fill should be solid parallel line segments from section edge to edge. They should be angled 45 degrees counterclockwise from the x-axis and spaced 0.2 inches apart.

406 F18) Insert the text "SPACING" with its bottom-left-justified origin at (14.8,3.5,0.0). Each character shall be 0.125 high and 0.1 wide, the spacing between each character shall be 0.1. This is 80 percent of the character height.

308) Create a subfigure named "PERSON" of a shaped figure composed of five lines from:

(-0.125,0.0,0.0)	to	(0.0,0.25,0.0)
(0.0,0.25,0.0)		(0.125,0.0,0.0)
(0.0,0.25,0.0)		(0.0,0.4375,0.0)
(0.0,0.375,0.0)		(0.09375,0.28125,0.0)
(0.0,0.375,0.0)		(-0.09375,0.28125,0.0)

and a circle of radius 0.0625 centered at (0.0,0.5,0.0).

408) Insert the subfigure "PERSON" into the IENTITY model at the model location (1.5,1.5,0.0).

412) Insert a rectangular array subfigure of "PERSON" consisting of 2 columns and 2 rows. The bottom left corner of the array is at (3.0,1.0,0.0). The horizontal distance between columns is 1.0 and the vertical distance between rows is 0.75.

414) Insert a circular array subfigure of "PERSON" consisting of 3 instances centered at (5.5,1.5,0.0). The first instance is at a radius of 0.5 and an angle of 30 degrees, the other two instances are at an incremental angle of 120 degrees.

Title block) Insert the title block "CALS TEST NETWORK
MIL-D-28000
CLASS I
REFERENCE DRAWING
I-ENTITY".

This multi-lined text should be bottom-center-justified with the text origin at (15.5,1.75,0.0). The text height and width should both be 0.09 inches.

Incident Report

Attachment C

Procedures for Executing the CTN Reference Illustration IGES Post-processor Test

Procedures for Executing the CTN Reference Illustration IGES Post-processor Test.

1. Receive a 9-track, MIL-STD-1840A formatted tape from the CALS Test Network containing both the IENTITY and LGTABLE IGES files in MIL-D-28000 Class I format.

2. Read the MIL-STD-1840A declaration information and load the IGES files onto your graphics system storage. The file names are shown in the 1840A declaration files and header fields.

3. Read and then strip the MIL-STD-1840A headers from the IGES files.

4. Post-process the IGES files into your graphics system, noting all errors the system reports.

5. Inspect the resulting graphics and answer the questions listed in the evaluation scripts. If you answer "no" to any of the questions, please explain why on the incident report sheets which follow the script. Attach additional sheets if necessary.

6. Generate a hard copy plot of each illustration.

7. If you are conducting a self-test, collect the evaluation scripts, plots, and any incident reports for evaluation. If you pre-arranged a formal CTN test and obtained CTN approval, send the completed evaluation scripts, plots, and any incident reports to:

   CALS Test Network, IGES Testing
   Lawrence Livermore National Laboratory
   P.O. Box 808, 7000 East Ave., L-542
   Livermore, CA 94550

   Refer questions to Jill Farrell at (415) 423-6348.

8. Evaluate the data. We at the CALS Test Network will and anyone conducting a self-test should:

   a. Examine the incident reports, plots, and evaluation scripts.
   b. Pinpoint processor, IGES standard, and/or military standard inefficiencies.
   c. Bring the findings to the appropriate parties for correction (either vendor, graphics system operator, IGES Committee, or the military standard's sponsor).
   d. CTN will publicly publish results of CTN findings.

Attachment D

IENTITY Evaluation Script

IENTITY Evaluation Script

Answer the following questions:

100)

______ a) Is the circular arc centered at (1.5,9.5,0.0)?

______ b) Is the arc radius 0.5 inches?

______ c) Is the arc traced out from 270 to 180 degrees counterclockwise?

102)

______ a) Is the composite curve made up of 2 lines and a spline?

______ b) Does one line extend from (3.0,9.5,0.0) to (3.0,10.0,0.0)?

______ c) Does the second line extend from (3.0,10.0,0.0) to (3.5,9.5,0.0)?

______ d) Does the spline curve between the end points (3.5,9.5,0.0) and (4.25,9.25,0.0)?

______ e) Does the composite curve behave as a single entity (selectable by one touch)?

104 Form 0)

______ a) Is the general conic arc an ellipse centered at (5.5,9.5,0.0)?

______ b) Is the major axis 1.0 inches?

______ c) Is the minor axis 0.5 inches?

______ d) Is the ellipse positioned so that the long axis parallels the vertical axis (is the ellipse skinny and tall)?

104 Form 1)

______ a) Is the ellipse centered at (7.5,9.5,0.0)?

______ b) Is the major axis 1.0 inches?

______ c) Is the minor axis 0.5 inches?

______ d) Is the ellipse positioned so that the long axis parallels the horizontal axis (is the ellipse short and fat)?

104 Form 2)

______ a) Is the hyperbola a horizontal hyperbola (shaped like a backwards "C")?

______ b) Is the right most part of the hyperbola at (9.5,9.5,0.0)?

______ c) Do the ends of the hyperbola extend toward the negative x-direction 0.25 inches?

______ d) Does the conic visually resemble the hyperbola on the IENTITY plot?

104 Form 3)

______ a) Is the parabola a vertical parabola (shaped like a wide "U")?

______ b) Is the parabola's vertex (lowest point) at (11.5,9.5,0.0)?

______ c) Do the ends of the parabola extend 0.25 inches into the positive y-direction?

______ d) Does the conic visually resemble the parabola on the IENTITY plot?

106 Form 11)

______ a) Does the linear planar curve look like a circular arc of radius 0.5 inches, centered at (13.5,9.25,0.0) and traced out from 0 to 180 degrees counterclockwise?

______ b) Is the linear planar curve made up of short straight segments combined to form a single entity?

106 Form 63)

______ a) Is a rectangle present between the points (15,9.25,0.0), (15.0,10.0,0.0), (16.0,10.0,0.0), and (16,9.25,0)?

______ b) Is this rectangle a closed area (can it be filled by a pattern)?

______ c) Does this simple closed area behave as a single entity (selectable by one touch)?

110)

______ Is a line present from (1.5,8.0,0.0) to (1.5,7.0,0.0)?

112)

______ a) Does the spline start at the upper left near (3.0,8.0,0.0), trace out toward the lower right, move toward the lower left to create a loop, and cross back over itself as it moves to the upper right near (4.0,8.0,0.0)?

______ b) Does the parametric spline curve visually resemble the spline on the IENTITY plot?

124 Form 0)

______ a) Did a semi-circle appear?

______ b) Is the semi-circle open toward the right side, in other words, is it shaped like a "C"?

126 Form 0)

______ a) Does a rational b-spline curve pass through the points (7.0,7.0,0.0), (7.0,7.5,0.0), (7.0,8.0,0.0), (7.5,8.0,0.0), (8.0,8.0,0.0), (8.0,7.5,0.0), (8.0,7.0,0.0)?

______ b) Does the rational b-spline curve visually resemble the curve on the IENTITY plot?

126 Form 1)

______ a) Does a rational b-spline curve pass through the points? (9.0,7.5,0.0), (10.0,8.0,0.0)? This curve approximates a line.

______ b) Does the rational b-spline curve visually resemble the curve on the IENTITY plot?

126 Form 2)

______ a) Place the following points on the illustration: (12.0,7.5,0.0), (11.9045,7.79389,0.0), (11.6545,7.97553,0.0), (11.3455,7.97553,0.0), (11.0955,7.79389,0.0), (11.0,7.5,0.0). Does the rational b-spline curve pass through these points? This curve approximates an arc.

______ b) Does the rational b-spline curve visually resemble the curve on the IENTITY plot?

126 Form 3)

______ a) Place the following points on the illustration: (14.0,7.5,0.0), (13.8528,7.67713,0.0), (13.6208,7.74259,0.0), (13.3792,7.74259,0.0), (13.1472,7.67713,0.0), (13.0,7.5,0.0). Does the rational b-spline curve pass through these points? This curve approximates an elliptical arc.

______ b) Does the rational b-spline curve visually resemble the curve on the IENTITY plot?

126 Form 4)

______ a) Place the following points on the illustration: (16.0,7.75,0.0), (15.8231,7.60439,0.0), (15.6138,7.51295,0.0), (15.3862,7.51295,0.0), (15.1769,7.60439,0.0), (15.0,7.75,0.0). Does the rational b-spline curve pass through these points? This curve approximates a parabolic arc.

______ b) Does the rational b-spline curve visually resemble the curve on the IENTITY plot?

126 Form 5)

______ a) Place the following points on the illustration: (1.25,5.71651,0.0), (1.36619,5.64544,0.0), (1.4722,5.56046,0.0), (1.47214,5.43958,0.0), (1.36622,5.35451,0.0), (1.25,5.28349,0.0). Does the rational b-spline curve pass through these points? This curve approximates an hyperbolic arc.

______ b) Does the rational b-spline curve visually resemble the curve on the IENTITY plot?

212 Form 0)

______ a) Does the lower left corner of the horizontal text block "SIMPLE" reside at (3.0,5.625,0.0)?
______ b) Does a second text string also say "SIMPLE"?
______ c) Is this second text string vertical in orientation?
______ d) Are the letters of this second text string slanted 30 degrees clockwise from the vertical axis?
______ e) Is the lower left corner of the letter "S" at (4.0,6.0,0.0)?
______ f) Is the text height for both text strings 0.125 inches?
______ g) Does the vertical text have a wider character width than the horizontal text?

212 Form 1)

______ a) Does the text say "DUAL STACK"?
______ b) Is the lower left corner of the text "DUAL" at (5.0,5.625,0.0)?
______ c) Is the text "STACK" left justified directly below "DUAL"?
______ d) Is the text height 0.125 inches?
______ e) Does the entire text string act as a single entity?

212 Form 2)

______ a) Do the first and second letters say "IM" and the sixth through eighth say "DED"?
______ b) Do the third through the fifth letters say "   "?
______ c) Is the lower left corner of the text block at (7.0,5.625,0.0)?
______ d) Is the text height 0.125 inches?
______ e) Does the entire text string act as a single entity?

212 Form 3)

______ a) Are the words of the general note "S" and "SUPER"?
______ b) Is the word "SUPER" a superscript of the letter "S"?
______ c) Is the lower left corner of the letter "S" at (9.0,5.625,0.0)?
______ d) Is the text height 0.125 inches?
______ e) Does the entire text string act as a single entity?

212 Form 4)

______ a) Are the words of the general note "S" and "SUB"?
______ b) Is the word "SUB" a subscript of the letter "S"?
______ c) Is the lower left corner of the letter "S" at (11.0,5.625,0.0)?
______ d) Is the text height 0.125 inches?
______ e) Does the entire text string act as a single entity?

212 Form 5)

______ a) Are the words of the general note "S", "SUPER", and "SUB"?
______ b) Is the word "SUPER" a superscript of "S"?
______ c) Is the word "SUB" a subscript of "S"?
______ d) Is the lower left corner of the letter "S" at (13.0,5.625,0.0)?
______ e) Is the text height 0.125 inches?
______ f) Does the entire text string act as a single entity?

212 Form 6)

______ a) Are the words of the general note "M", "STACK", and "LEFT"?
______ b) Are the words stacked one below the other ("M" then "STACK" then "LEFT")?
______ c) Are the words left justified to a common margin?
______ d) Is the lower left corner of the letter "M" at (15.0,5.75,0.0)?
______ e) Is the text height 0.125 inches?
______ f) Does the entire text string act as a single entity?

212 Form 7)

______ a) Are the words of the general note "M", "STACK", and "CENTER"?
______ b) Are the words stacked one below the other?
______ c) Are the words center justified?
______ d) Is the lower center location of the letter "M" at (1.5,3.75,0.0)?
______ e) Is the text height 0.125 inches?
______ f) Does the entire text string act as a single entity?

212 Form 8)

______ a) Are the words of the general note "M", "STACK", and "RIGHT"?
______ b) Are the words stacked one below the other?
______ c) Are the words right justified to a common margin?
______ d) Is the lower right corner of the letter "M" at (4.0,3.75,0.0)?
______ e) Is the text height 0.125 inches?
______ f) Does the entire text string act as a single entity?

212 Form 100)

______ a) Does the text appear as shown?

```
    FRAC
S   ----
    TION
```

______ b) Is the lower left corner of the letter "S" at (5.07,3.56,0.0)?
______ c) Does the entire text string act as a single entity?

212 Form 101)

______ a) Does the text appear as shown?

```
       TO
DUAL   ---
        P

        BOT
STACK   ----
        TOM
```

______ b) Is the lower left corner of "DUAL" at (7.0,3.81,0.0)?
______ c) Does the entire text string act as a single entity?

212 Form 102)

______ a) Does the text appear as shown?

```
     BED           ACT
IM   ----  =  FR   ----
     DED           ION
```

______ b) Is the lower left corner of "IM" at (8.66,3.56,0.0)?
______ c) Does the entire text string act as a single entity?

212 Form 105)

______ a) Does the text appear as shown?

```
               O
          T   ---
               P
     SUP
FR   ----
     SUB
               TT
          BO   ---
               OM
```

______ b) Is the lower left corner of "FR" at (10.625,3.625,0)?
______ c) Does the entire text string act as a single entity?

230)

______ a) Do four lines form a square?
______ b) Is the square crosshatched with solid parallel line segments from edge to edge?
______ c) Is the crosshatching spacing 0.2 inches?
______ d) Is the crosshatching angled at 45 degrees?

406 F18)
______ a) Does the text say "SPACING"?
______ b) Is the lower left corner of the text at (14.8,3.5,0.0)?
______ c) Is the text height 0.125 inches?
______ d) Is the text width 0.1 inches?
______ e) Is the spacing between each character 0.1 inches so that the text is unusually widely spaced?
______ f) Does the text end at approximately (16.1,3.5,0.0)?

308)
______ a) Does a subfigure named "PERSON" exist?
______ b) Does the subfigure named "PERSON" consist of five lines from:
(-0.125,0.0,0.0) to (0.0,0.25,0.0)
(0.0,0.25,0.0)   (0.125,0.0,0.0)
(0.0,0.25,0.0)   (0.0,0.4375,0.0)
(0.0,0.375,0.0)   (0.09375,0.28125,0.0)
(0.0,0.375,0.0)   (-0.09375,0.28125,0.0)
______ c) and a circle of radius 0.0625 centered at (0.0,0.5,0.0)?

408)
______ a) Does an instance of "PERSON" appear with its origin at (1.5,1.5,0.0)? The origin of "PERSON" is a point exactly between the person's feet.

412)
Does an instance of "PERSON" appear at:
______ a) (3.0,1.0,0.0)?
______ b) (4.0,1.0,0.0)?
______ c) (3.0,1.75,0.0)?
______ d) (4.0,1.75,0.0)?

414) Does an instance of "PERSON" appear at:
______ a) (5.933,1.75,0.0)?
______ b) (5.067,1.75,0.0)?
______ c) (5.5,1.0,0.0)?

Grid Lines)
______ a) Are there 9 vertical grid lines?
______ b) Are there 6 horizontal grid lines?

Entity Identifiers)
______ Is every entity identified by a name and an IGES number placed beneath the entity within the grid box?

Title Block)
______ Does the title block in the lower right hand grid box say, "CALS TEST NETWORK
MIL-D-28000
CLASS I
REFERENCE DRAWING
I-ENTITY"?

Incident Report

Attachment E

LGTABLE Evaluation Notes

LGTABLE Evaluation Notes

______ Does the post-processed illustration visually resemble the plot of the LGTABLE illustration?

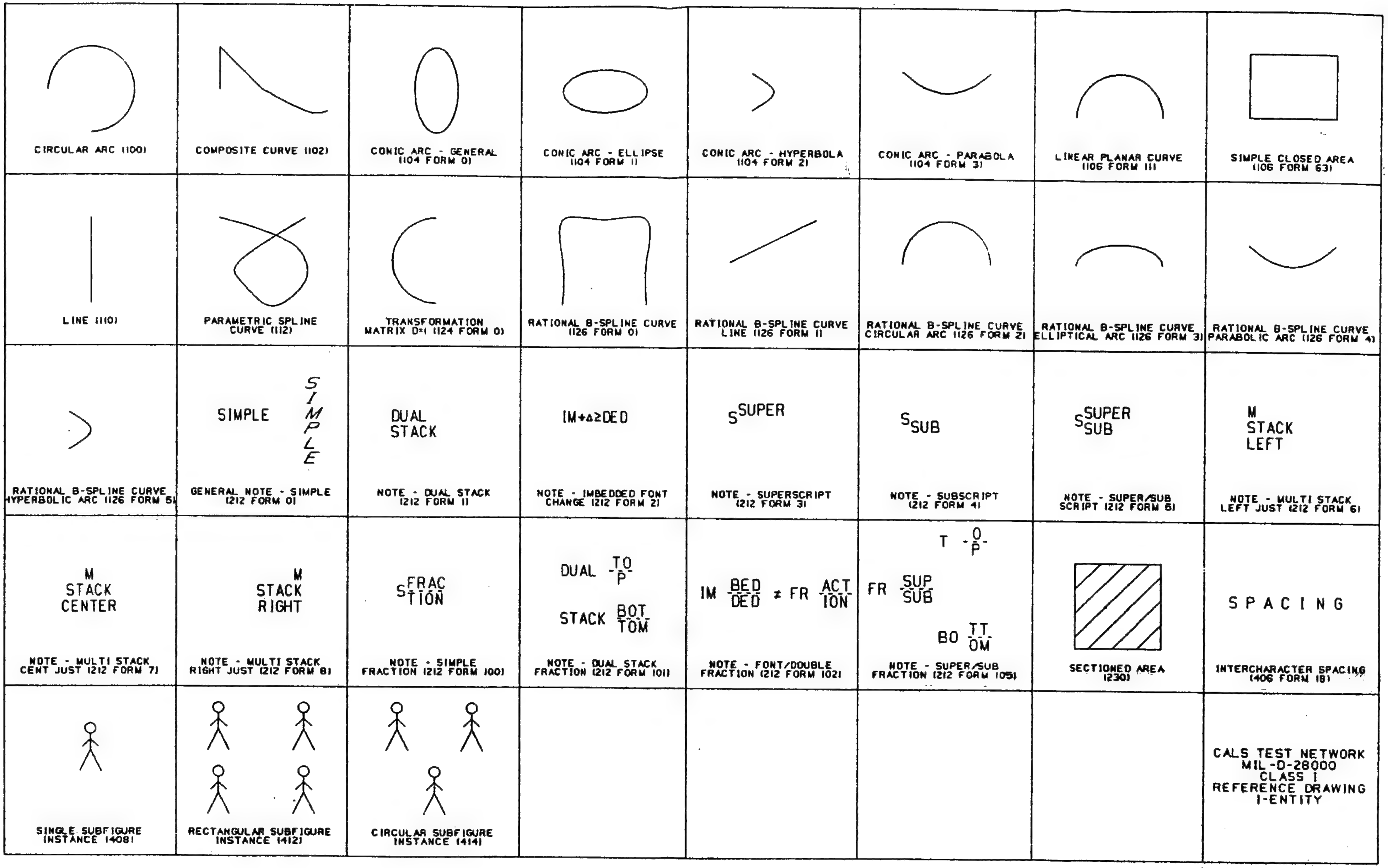
Things to look for:

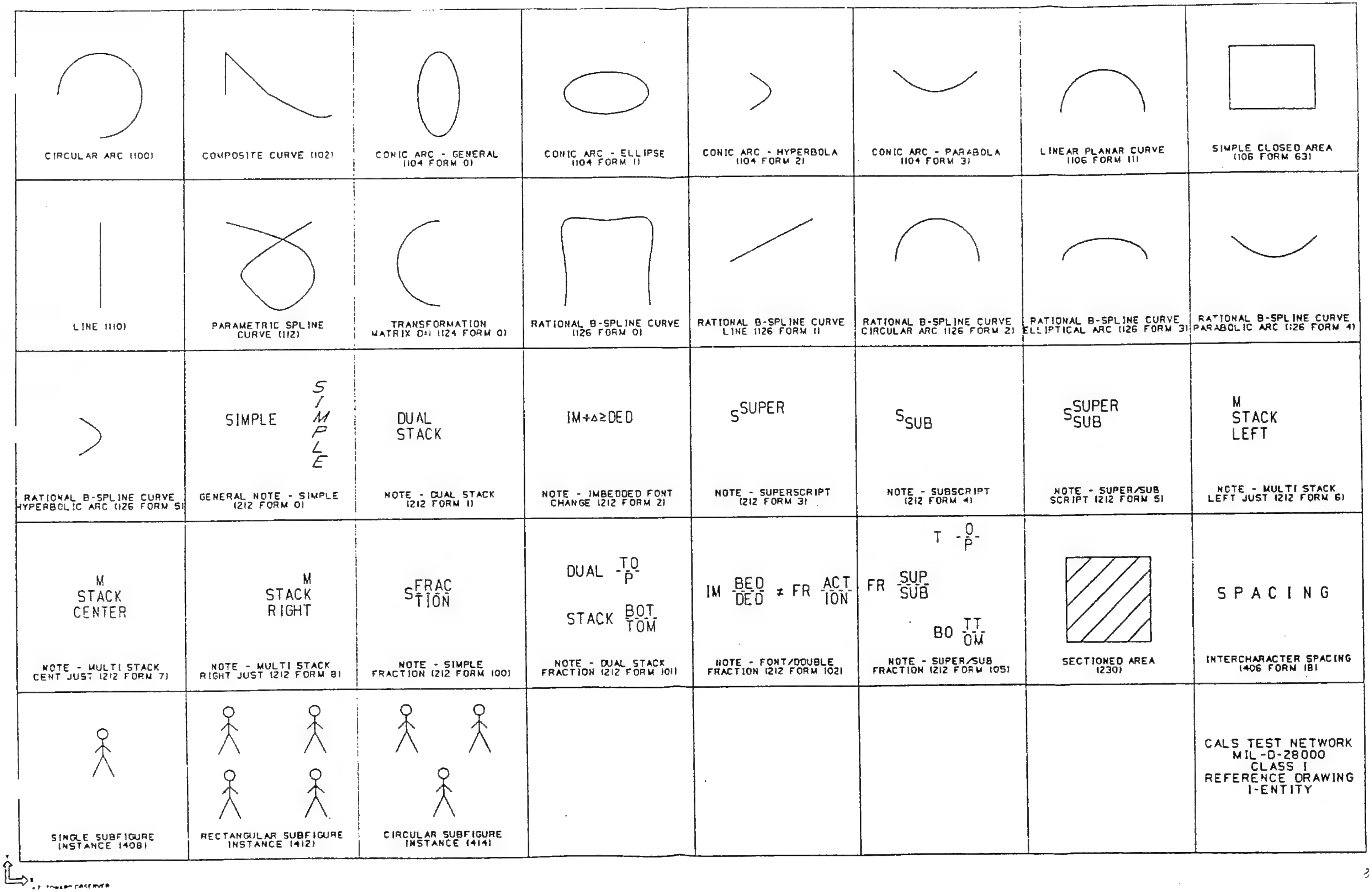
- Solid fill in circles in table
- Solid fill in arrowheads
- Dashed lines between circles in table
- Properly justified text in tables
- Correct arc and conic orientations around airplane wheel
- Relative line thicknesses
- Text "CALS Test Network LGTABLE Reference Illustration" in lower right hand corner of illustration

Incident Report

Attachment F

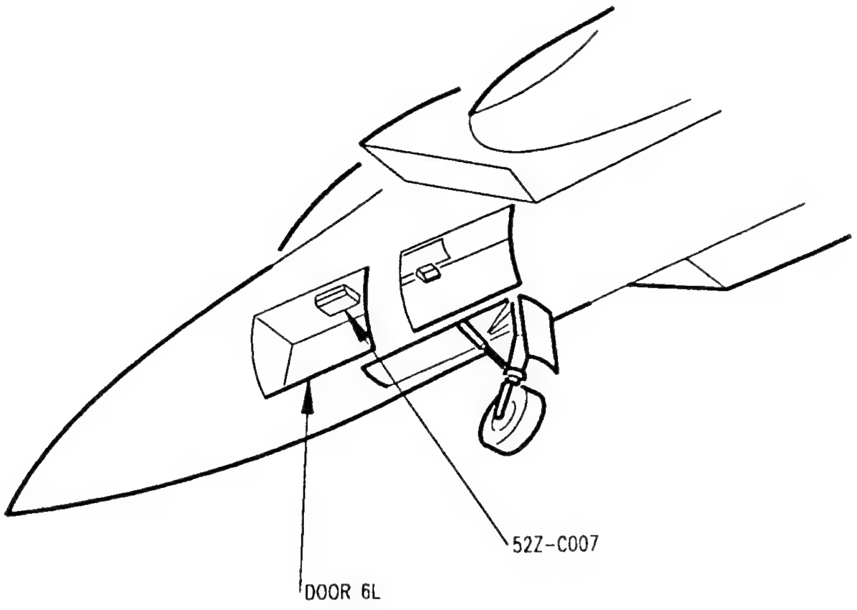
IENTITY B-sized Plot

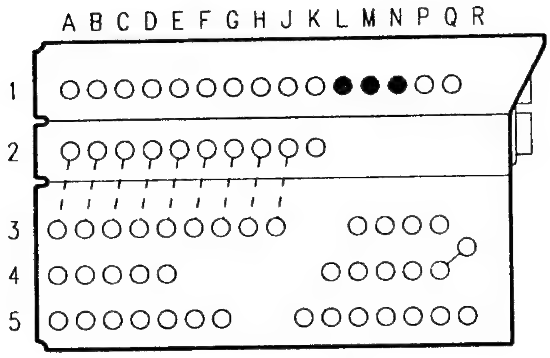

CIRCULAR ARC (100)
COMPOSITE CURVE (102)
CONIC ARC - GENERAL (104 FORM 0)
CONIC ARC - ELLIPSE (104 FORM 1)
CONIC ARC - HYPERBOLA (104 FORM 2)
CONIC ARC - PARABOLA (104 FORM 3)
LINEAR PLANAR CURVE (106 FORM 11)
SIMPLE CLOSED AREA (106 FORM 63)
LINE (110)
PARAMETRIC SPLINE CURVE (112)
TRANSFORMATION MATRIX D=1 (124 FORM 0)
RATIONAL B-SPLINE CURVE (126 FORM 0)
RATIONAL B-SPLINE CURVE LINE (126 FORM 1)
RATIONAL B-SPLINE CURVE CIRCULAR ARC (126 FORM 2)
RATIONAL B-SPLINE CURVE ELLIPTICAL ARC (126 FORM 3)
RATIONAL B-SPLINE CURVE PARABOLIC ARC (126 FORM 4)
RATIONAL B-SPLINE CURVE HYPERBOLIC ARC (126 FORM 5)
SIMPLE
SIMPLE
GENERAL NOTE - SIMPLE (212 FORM 0)
DUAL
STACK
NOTE - DUAL STACK (212 FORM 1)
IM+∆≥DED
NOTE - IMBEDDED FONT CHANGE (212 FORM 2)
S SUPER
NOTE - SUPERSCRIPT (212 FORM 3)
S SUB
NOTE - SUBSCRIPT (212 FORM 4)
S SUPER SUB
NOTE - SUPER/SUB SCRIPT (212 FORM 6)
M
STACK
LEFT
NOTE - MULTI STACK LEFT JUST (212 FORM 6)
M
STACK
CENTER
NOTE - MULTI STACK CENT JUST (212 FORM 7)
M
STACK
RIGHT
NOTE - MULTI STACK RIGHT JUST (212 FORM 8)
S FRAC TION
NOTE - SIMPLE FRACTION (212 FORM 100)
DUAL TO P
STACK BOT TOM
NOTE - DUAL STACK FRACTION (212 FORM 101)
IM BED DED ≠ FR ACT ION
NOTE - FONT/DOUBLE FRACTION (212 FORM 102)
T O P
FR SUP SUB
BO TT OM
NOTE - SUPER/SUB FRACTION (212 FORM 105)
SECTIONED AREA (230)
S P A C I N G
INTERCHARACTER SPACING (406 FORM 18)
SINGLE SUBFIGURE INSTANCE (408)
RECTANGULAR SUBFIGURE INSTANCE (412)
CIRCULAR SUBFIGURE INSTANCE (414)
CALS TEST NETWORK
MIL-D-28000
CLASS I
REFERENCE DRAWING
1-ENTITY


CIRCULAR ARC (100)
COMPOSITE CURVE (102)
CONIC ARC - GENERAL (104 FORM 0)
CONIC ARC - ELLIPSE (104 FORM 1)
CONIC ARC - HYPERBOLA (104 FORM 2)
CONIC ARC - PARABOLA (104 FORM 3)
LINEAR PLANAR CURVE (106 FORM 11)
SIMPLE CLOSED AREA (106 FORM 63)
LINE (110)
PARAMETRIC SPLINE CURVE (112)
TRANSFORMATION MATRIX D=1 (124 FORM 0)
RATIONAL B-SPLINE CURVE (126 FORM 0)
RATIONAL B-SPLINE CURVE LINE (126 FORM 1)
RATIONAL B-SPLINE CURVE CIRCULAR ARC (126 FORM 2)
RATIONAL B-SPLINE CURVE ELLIPTICAL ARC (126 FORM 3)
RATIONAL B-SPLINE CURVE PARABOLIC ARC (126 FORM 4)
RATIONAL B-SPLINE CURVE HYPERBOLIC ARC (126 FORM 5)
SIMPLE
SIMPLE
GENERAL NOTE - SIMPLE (212 FORM 0)
DUAL STACK
NOTE - DUAL STACK (212 FORM 1)
IM+Δ≥DED
NOTE - IMBEDDED FONT CHANGE (212 FORM 2)
SSUPER
NOTE - SUPERSCRIPT (212 FORM 3)
SSUB
NOTE - SUBSCRIPT (212 FORM 4)
SSUPER SUB
NOTE - SUPER/SUB SCRIPT (212 FORM 5)
M STACK LEFT
NOTE - MULTI STACK LEFT JUST (212 FORM 6)
M STACK CENTER
NOTE - MULTI STACK CENT JUST (212 FORM 7)
M STACK RIGHT
NOTE - MULTI STACK RIGHT JUST (212 FORM 8)
SFRAC TION
NOTE - SIMPLE FRACTION (212 FORM 100)
DUAL TO P
STACK BOT TOM
NOTE - DUAL STACK FRACTION (212 FORM 101)
IM BED DED ≠ FR ACT ION
NOTE - FONT/DOUBLE FRACTION (212 FORM 102)
T O P
FR SUP SUB
BO TT OM
NOTE - SUPER/SUB FRACTION (212 FORM 105)
SECTIONED AREA (230)
S P A C I N G
INTERCHARACTER SPACING (406 FORM 18)
SINGLE SUBFIGURE INSTANCE (408)
RECTANGULAR SUBFIGURE INSTANCE (412)
CIRCULAR SUBFIGURE INSTANCE (414)
CALS TEST NETWORK
MIL-D-28000
CLASS I
REFERENCE DRAWING
I-ENTITY

Attachment G

LGTABLE A-sized Plot





52Z-C007

52Z-C007	ESSENTIAL CIRCUIT BREAKER PANEL NO. 1		(24-50-12)
REF DES	ZONE	NOMENCLATURE	BUS
41CBC033	L1	R MLG WOW PWR 28VDC	ESS 28VDC
41CBC034	M1	L MLG WOW PWR 28VDC	ESS 28VDC
42CBC005	N1	LDG GR POS IND 28VDC	ESS 28VDC

Attachment H

IENTITY IGES File Printout

```
                                                                        S      1
                                                                        S      2
CONFORMANCE:  This IGES file comforms to the MIL-D-28000 Amendment 1    S      3
              Class I subset Technical Illustrations dated              S      4
              20 December 1988.                                         S      5
                                                                        S      6
ILLUSTRATION                                                            S      7
 IDENTIFIER:  IENTITY, Revision A                                       S      8
                                                                        S      9
DESCRIPTION:  Reference drawing named I-entity which is                 S     10
              comprised of all the IGES entities specified              S     11
              in MIL-D-28000 Class I.  Contact the CALS                 S     12
              Test Network to obtain procedures for conducting          S     13
              the test and evaluating the results.                      S     14
                                                                        S     15
                                                                        S     16
1H,,1H;,7HIENTITY,7HIENTITY,4HNONE,4HTEST,32,38,6,308,15,               G      1
7HIENTITY,1.0,1,4HINCH,8,0.016,13H891031.080000,0.01,22.0,              G      2
6HKASSEL,17HCALS TEST NETWORK,6,0;                                      G      3
       0       1                                                        D      1
       0                       1                                        D      2
       0       2                                                        D      3
       0                       1                                        D      4
       0       3                                                        D      5
       0                       1                                        D      6
       0       4                                                        D      7
       0                       1                                        D      8
       0       5                                                        D      9
       0                       1                                        D     10
       0       6                                                        D     11
       0                       1                                        D     12
     110       7       1       1       0       0       0       0   10001D     13
     110       0       2       1       0                                D     14
     110       8       1       1       0       0       0       0   10001D     15
     110       0       2       1       0                                D     16
     110       9       1       1       0       0       0       0   10001D     17
     110       0       2       1       0                                D     18
     110      10       1       1       0       0       0       0   10001D     19
     110       0       2       1       0                                D     20
     110      11       1       1       0       0       0       0   10001D     21
     110       0       2       1       0                                D     22
     100      12       1       1       0       0       0       0   10001D     23
     100       0       2       1       0                                D     24
     308      13       1       0       0       0       0       0     201D     25
     308       0       0       1       0                                D     26
       0      14                                                        D     27
       0                       1                                        D     28
       0      15                                                        D     29
       0                       1                                        D     30
       0      16                                                        D     31
       0                       1                                        D     32
       0      17                                                        D     33
       0                       1                                        D     34
       0      18                                                        D     35
       0                       1                                        D     36
     124      19       1       0       0       0       0       0       1D     37
     124       0       0       1       0                                D     38
       0      20       1       0       0       0       0       0       1D     39
       0       0       0       1       0                                D     40
       0      21       1       0       0       0       0       0       1D     41
       0       0       0       1       0                                D     42
       0      22       1       0       0       0       0       0   10201D     43
       0       0       0       1       0                                D     44
       0      23       1       0       0       0       0       0   10101D     45
       0       0       0       1       0                                D     46
       0      24                                                        D     47
```

0			1					D	48
0	25							D	49
0			1					D	50
0	26							D	51
0			1					D	52
0	27							D	53
0			1					D	54
410	28	1	0	0	0	0	0	20101D	55
410	0	0	1	0				D	56
110	29	1	1	0	0	0	0	10001D	57
110	0	2	1	0				D	58
110	30	1	1	0	0	0	0	10001D	59
110	0	2	1	0				D	60
124	31	1	0	0	0	0	0	1D	61
124	0	0	1	0				D	62
104	32	1	1	0	0	61	0	1D	63
104	0	2	1	2				D	64
124	33	1	0	0	0	0	0	1D	65
124	0	0	1	0				D	66
104	34	1	1	0	0	65	0	1D	67
104	0	2	1	3				D	68
124	35	1	0	0	0	0	0	1D	69
124	0	0	1	0				D	70
104	36	1	1	0	0	69	0	1D	71
104	0	2	1	0				D	72
110	37	1	1	0	0	0	0	1D	73
110	0	2	1	0				D	74
124	38	1	0	0	0	0	0	1D	75
124	0	0	1	0				D	76
104	39	1	1	0	0	75	0	1D	77
104	0	2	1	1				D	78
100	40	1	1	0	0	0	0	1D	79
100	0	2	1	0				D	80
110	41	1	1	0	0	0	0	10001D	81
110	0	2	1	0				D	82
110	42	1	1	0	0	0	0	10001D	83
110	0	2	1	0				D	84
110	43	1	1	0	0	0	0	10001D	85
110	0	2	1	0				D	86
110	44	1	1	0	0	0	0	10001D	87
110	0	2	1	0				D	88
110	45	1	1	0	0	0	0	1D	89
110	0	2	1	0				D	90
110	46	1	1	0	0	0	0	1D	91
110	0	2	1	0				D	92
110	47	1	1	0	0	0	0	1D	93
110	0	2	1	0				D	94
110	48	1	1	0	0	0	0	1D	95
110	0	2	1	0				D	96
110	49	1	1	0	0	0	0	1D	97
110	0	2	1	0				D	98
110	50	1	1	0	0	0	0	1D	99
110	0	2	1	0				D	100
110	51	1	1	0	0	0	0	1D	101
110	0	2	1	0				D	102
110	52	1	1	0	0	0	0	1D	103
110	0	2	1	0				D	104
110	53	1	1	0	0	0	0	1D	105
110	0	2	1	0				D	106
110	54	1	1	0	0	0	0	1D	107
110	0	2	1	0				D	108
110	55	1	1	0	0	0	0	1D	109
110	0	2	1	0				D	110
110	56	1	1	0	0	0	0	1D	111
110	0	2	1	0				D	112
110	57	1	1	0	0	0	0	1D	113

110	0	2	1	0				D	114
110	58	1	1	0	0	0	0	1D	115
110	0	2	1	0				D	116
110	59	1	1	0	0	0	0	1D	117
110	0	2	1	0				D	118
0	60							D	119
0			1					D	120
0	61							D	121
0			1					D	122
0	62							D	123
0			1					D	124
0	63							D	125
0			1					D	126
0	64							D	127
0			1					D	128
0	65							D	129
0			1					D	130
0	66							D	131
0			1					D	132
0	67							D	133
0			1					D	134
0	68							D	135
0			1					D	136
106	69	1	1	0	0	0	0	1D	137
106	0	2	8	11				D	138
106	77	1	1	0	0	0	0	1D	139
106	0	2	1	63				D	140
112	78	1	1	0	0	0	0	10001D	141
112	0	2	4	0				D	142
112	82	1	1	0	0	0	0	1D	143
112	0	2	14	0				D	144
126	96	1	1	0	0	0	0	1D	145
126	0	2	2	1				D	146
126	98	1	1	0	0	0	0	1D	147
126	0	2	4	2				D	148
126	102	1	1	0	0	0	0	1D	149
126	0	2	5	0				D	150
126	107	1	1	0	0	0	0	1D	151
126	0	2	4	3				D	152
126	111	1	1	0	0	0	0	1D	153
126	0	2	2	4				D	154
126	113	1	1	0	0	0	0	1D	155
126	0	2	4	5				D	156
102	117	1	1	0	0	0	0	10201D	157
102	0	0	1	0				D	158
230	118	1	1	0	0	0	0	101D	159
230	0	2	1	0				D	160
212	119	1	0	0	0	0	0	101D	161
212	0	2	1	0				D	162
212	120	1	0	0	0	0	0	101D	163
212	0	2	9	102				D	164
212	129	1	0	0	0	0	0	101D	165
212	0	2	12	105				D	166
212	141	1	0	0	0	0	0	101D	167
212	0	2	8	101				D	168
212	149	1	0	0	0	0	0	101D	169
212	0	2	4	100				D	170
212	153	1	0	0	0	0	0	101D	171
212	0	2	3	8				D	172
212	156	1	0	0	0	0	0	101D	173
212	0	2	3	7				D	174
212	159	1	0	0	0	0	0	101D	175
212	0	2	3	6				D	176
212	162	1	0	0	0	0	0	101D	177
212	0	2	3	5				D	178
212	165	1	0	0	0	0	0	101D	179

212	0	2	2	0				D	180
212	167	1	0	0	0	0	0	101D	181
212	0	2	3	0				D	182
212	170	1	0	0	0	0	0	101D	183
212	0	2	3	0				D	184
212	173	1	0	0	0	0	0	101D	185
212	0	2	3	0				D	186
212	176	1	0	0	0	0	0	101D	187
212	0	2	3	0				D	188
212	179	1	0	0	0	0	0	101D	189
212	0	2	3	0				D	190
212	182	1	0	0	0	0	0	101D	191
212	0	2	3	0				D	192
212	185	1	0	0	0	0	0	101D	193
212	0	2	3	0				D	194
212	188	1	0	0	0	0	0	101D	195
212	0	2	3	0				D	196
212	191	1	0	0	0	0	0	101D	197
212	0	2	3	0				D	198
212	194	1	0	0	0	0	0	101D	199
212	0	2	3	0				D	200
212	197	1	0	0	0	0	0	101D	201
212	0	2	3	0				D	202
212	200	1	0	0	0	0	0	101D	203
212	0	2	2	0				D	204
212	202	1	0	0	0	0	0	101D	205
212	0	2	3	0				D	206
212	205	1	0	0	0	0	0	101D	207
212	0	2	3	0				D	208
212	208	1	0	0	0	0	0	101D	209
212	0	2	3	0				D	210
212	211	1	0	0	0	0	0	101D	211
212	0	2	3	0				D	212
212	214	1	0	0	0	0	0	101D	213
212	0	2	3	0				D	214
212	217	1	0	0	0	0	0	101D	215
212	0	2	3	0				D	216
212	220	1	0	0	0	0	0	101D	217
212	0	2	2	0				D	218
212	222	1	0	0	0	0	0	101D	219
212	0	2	2	0				D	220
212	224	1	0	0	0	0	0	101D	221
212	0	2	1	0				D	222
212	225	1	0	0	0	0	0	101D	223
212	0	2	3	0				D	224
212	228	1	0	0	0	0	0	101D	225
212	0	2	3	0				D	226
212	231	1	0	0	0	0	0	101D	227
212	0	2	3	0				D	228
212	234	1	0	0	0	0	0	101D	229
212	0	2	3	0				D	230
212	237	1	0	0	0	0	0	101D	231
212	0	2	3	0				D	232
212	240	1	0	0	0	0	0	101D	233
212	0	2	3	0				D	234
212	243	1	0	0	0	0	0	101D	235
212	0	2	3	0				D	236
212	246	1	0	0	0	0	0	101D	237
212	0	2	3	0				D	238
212	249	1	0	0	0	0	0	101D	239
212	0	2	3	0				D	240
212	252	1	0	0	0	0	0	101D	241
212	0	2	6	0				D	242
212	258	1	0	0	0	0	0	101D	243
212	0	2	3	2				D	244
212	261	1	0	0	0	0	0	101D	245

```
     212       0      2      2      4                                       D     246
     212     263      1      0      0      0       0       0          101D     247
     212       0      2      2      3                                       D     248
     212     265      1      0      0      0       0       0          101D     249
     212       0      2      2      1                                       D     250
     212     267      1      0      0      0       0       0          101D     251
     212       0      2      3      0                                       D     252
     212     270      1      0      0      0       0       0          101D     253
     212       0      2      3      0                                       D     254
     212     273      1      0      0      0       0       0          101D     255
     212       0      2      3      0                                       D     256
     212     276      1      0      0      0       0       0          101D     257
     212       0      2      3      0                                       D     258
     212     279      1      0      0      0       0       0          101D     259
     212       0      2      3      0                                       D     260
     212     282      1      0      0      0       0       0          101D     261
     212       0      2      3      0                                       D     262
     408     285      1      1      0      0       0       0            1D     263
     408       0      0      1      0                                       D     264
       0     286                                                           D     265
       0                    1                                              D     266
       0     287                                                           D     267
       0                    1                                              D     268
       0     288                                                           D     269
       0                    1                                              D     270
       0     289                                                           D     271
       0                    1                                              D     272
       0     290                                                           D     273
       0                    1                                              D     274
       0     291                                                           D     275
       0                    1                                              D     276
       0     292                                                           D     277
       0                    1                                              D     278
     102     293      1      1      0      0       0       0          201D     279
     102       0      0      1      0                                       D     280
       0     294      1      0      0      0       0       0        10201D     281
       0       0      0      1      0                                       D     282
       0     295      1      0      0      0       0       0        10201D     283
       0       0      0      1      0                                       D     284
     406     296      1      0      0      0       0       0        20001D     285
     406       0      0      1     16                                       D     286
     404     297      1      0      0      0       0       0          101D     287
     404       0      0      1      0                                       D     288
     406     298      0      1      0      0       0       0        20001D     289
     406       0      0      1     18                                       D     290
     412     299      1      1      0      0       0       0            1D     291
     412       0      0      1      0                                       D     292
     414     300      1      1      0      0       0       0            1D     293
     414       0      0      1      0                                       D     294
     100     301      1      1      0      0      37       0            1D     295
     100       0      2      1      0                                       D     296
0;                                                                        1P       1
0;                                                                        3P       2
0;                                                                        5P       3
0;                                                                        7P       4
0;                                                                        9P       5
0;                                                                       11P       6
110,-0.125,0.0,0.0,0.0,0.25,0.0;                                         13P       7
110,0.0,0.25,0.0,0.125,0.0,0.0;                                          15P       8
110,0.0,0.25,0.0,0.0,0.4375,0.0;                                         17P       9
110,0.0,0.375,0.0,0.09375,0.28125,0.0;                                   19P      10
110,0.0,0.375,0.0,-0.09375,0.28125,0.0;                                  21P      11
100,0.0,0.0,0.5,0.0625,0.5,0.0625,0.5;                                   23P      12
308,0,6HPERSON,6,13,15,17,19,21,23;                                      25P      13
0;                                                                       27P      14
0;                                                                       29P      15
```

```
0;                                                                      31P     16
0;                                                                      33P     17
0;                                                                      35P     18
124,0.0,1.0,0.0,5.5,-1.0,0.0,0.0,7.5,0.0,0.0,1.0,0.0;                   37P     19
0;                                                                      39P     20
0;                                                                      41P     21
0;                                                                      43P     22
0;                                                                      45P     23
0;                                                                      47P     24
0;                                                                      49P     25
0;                                                                      51P     26
0;                                                                      53P     27
410,5,1.0,0,0,0,0,0,0;                                                  55P     28
110,3.0,10.0,0.0,3.5,9.5,0.0;                                           57P     29
110,3.0,9.5,0.0,3.0,10.0,0.0;                                           59P     30
124,-1.0,0.0,0.0,9.75,0.0,-1.0,0.0,9.5,0.0,0.0,1.0,0.0;                 61P     31
104,16.0,0.0,-64.0,0.0,0.0,-1.0,0.0,0.5,-0.216506,0.5,0.216506;         63P     32
124,0.0,-1.0,0.0,11.5,1.0,0.0,0.0,9.5,0.0,0.0,1.0,0.0;                  65P     33
104,0.0,0.0,1.0,-1.0,0.0,0.0,0.0,0.25,-0.5,0.25,0.5;                    67P     34
124,0.0,-1.0,0.0,5.5,1.0,0.0,0.0,9.5,0.0,0.0,1.0,0.0;                   69P     35
104,0.0625,0.0,0.25,0.0,0.0,-0.015625,0.0,0.0,-0.25,0.0,-0.25;          71P     36
110,1.5,8.0,0.0,1.5,7.0,0.0;                                            73P     37
124,1.0,0.0,0.0,7.5,0.0,1.0,0.0,9.5,0.0,0.0,1.0,0.0;                    75P     38
104,0.0625,0.0,0.25,0.0,0.0,-0.015625,0.0,0.5,0.0,0.5,0.0;              77P     39
100,0.0,1.5,9.5,1.5,9.0,1.0,9.5;                                        79P     40
110,13.0,3.0,0.0,13.0,4.0,0.0;                                          81P     41
110,13.0,4.0,0.0,14.0,4.0,0.0;                                          83P     42
110,14.0,4.0,0.0,14.0,3.0,0.0;                                          85P     43
110,14.0,3.0,0.0,13.0,3.0,0.0;                                          87P     44
110,0.5,0.5,0.0,16.5,0.5,0.0;                                           89P     45
110,0.5,2.5,0.0,16.5,2.5,0.0;                                           91P     46
110,0.5,4.5,0.0,16.5,4.5,0.0;                                           93P     47
110,0.5,6.5,0.0,16.5,6.5,0.0;                                           95P     48
110,0.5,8.5,0.0,16.5,8.5,0.0;                                           97P     49
110,0.5,10.5,0.0,16.5,10.5,0.0;                                         99P     50
110,0.5,0.5,0.0,0.5,10.5,0.0;                                          101P     51
110,2.5,0.5,0.0,2.5,10.5,0.0;                                          103P     52
110,4.5,0.5,0.0,4.5,10.5,0.0;                                          105P     53
110,6.5,0.5,0.0,6.5,10.5,0.0;                                          107P     54
110,8.5,0.5,0.0,8.5,10.5,0.0;                                          109P     55
110,10.5,0.5,0.0,10.5,10.5,0.0;                                        111P     56
110,12.5,0.5,0.0,12.5,10.5,0.0;                                        113P     57
110,14.5,0.5,0.0,14.5,10.5,0.0;                                        115P     58
110,16.5,0.5,0.0,16.5,10.5,0.0;                                        117P     59
0;                                                                     119P     60
0;                                                                     121P     61
0;                                                                     123P     62
0;                                                                     125P     63
0;                                                                     127P     64
0;                                                                     129P     65
0;                                                                     131P     66
0;                                                                     133P     67
0;                                                                     135P     68
106,1,26,0.0,14.0,9.25,13.9961,9.3127,13.9843,9.3743,                  137P     69
13.9649,9.4341,13.9382,9.4909,13.9045,9.5439,                          137P     70
13.8645,9.5923,13.8187,9.6353,13.7679,9.6722,                          137P     71
13.7129,9.7024,13.6545,9.7255,13.5937,9.7411,                          137P     72
13.5314,9.749,13.4686,9.749,13.4063,9.7411,13.3455,                    137P     73
9.7255,13.2871,9.7024,13.2321,9.6722,13.1813,9.6353,                   137P     74
13.1355,9.5923,13.0955,9.5439,13.0618,9.4909,                          137P     75
13.0351,9.4341,13.0157,9.3743,13.0039,9.3127,13.0,9.25;                137P     76
106,1,5,0.0,15.0,10.0,16.0,10.0,16.0,9.25,15.0,9.25,15.0,10.0;         139P     77
112,3,1,2,2,0.0,1.0,2.0,3.5,0.5625,0.0,-0.0625,9.5,-0.3125,            141P     78
0.0,0.0625,0.0,0.0,0.0,0.0,4.0,0.375,-0.1875,0.0625,                   141P     79
9.25,-0.125,0.1875,-0.0625,0.0,0.0,0.0,0.0,4.25,0.1875,0.0,            141P     80
0.375,9.25,0.0625,0.0,-0.375,0.0,0.0,0.0,0.0;                          141P     81
```

```
112,3,1,2,8,0.0,1.0,2.0,3.0,4.0,5.0,6.0,7.0,8.0,3.0,0.870858,       143P     82
0.0,-0.120858,8.0,-0.249075,0.0,0.0,0.0,0.0,                         143P     83
0.0,0.0,3.75,0.508284,-0.362575,0.10429,7.75,-0.251843,              143P     84
0.0,0.0,0.0,0.0,0.0,0.0,4.0,0.0960054,                               143P     85
-0.0497036,-0.0463009,7.5,-0.243556,0.0110455,-0.0174891,0.0,        143P     86
0.0,0.0,0.0,4.0,-0.142304,-0.188606,0.0809104,7.25,-0.273932,        143P     87
-0.0414219,0.065354,0.0,0.0,0.0,0.0,3.75,-0.276786,0.0541248,        143P     88
-0.0273387,7.0,-0.160714,0.15464,0.0,0.0,0.0,0.0,0.0,                143P     89
3.5,-0.250552,-0.0278912,0.0284429,7.0,0.16679,0.172863,             143P     90
-0.0896533,0.0,0.0,0.0,0.0,3.25,-0.221006,0.0574377,0.163568,        143P     91
7.25,0.243557,-0.0960965,0.10254,0.0,0.0,0.0,0.0,3.25,0.384573,      143P     92
0.548141,-0.182714,7.5,0.358985,0.211525,-0.0705097,0.0,0.0,0.0,     143P     93
0.0,4.0,0.932714,0.0,-1.09628,8.0,0.570505,                          143P     94
0.0,-0.423058,0.0,0.0,0.0,0.0;                                       143P     95
126,1,1,1,0,1,0,0.0,0.0,1.0,1.0,1.0,1.0,9.0,7.5,0.0,10.0,8.0,        145P     96
0.0,0.0,1.0,0.0,0.0,1.0;                                             145P     97
126,5,5,1,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,1.0,1.0,     147P     98
1.0,1.0,1.0,1.0,1.0,1.0,12.0,7.5,0.0,12.0,7.8341,0.0,11.721,         147P     99
8.13295,0.0,11.279,8.13295,0.0,11.0,7.8341,0.0,11.0,7.5,0.0,0.0,     147P    100
1.0,0.0,0.0,1.0;                                                     147P    101
126,8,3,1,0,1,0,0.0,0.0,0.0,0.0,1.0,2.0,3.0,4.0,5.0,6.0,6.0,6.0,     149P    102
6.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,7.0,7.0,0.0,7.01111,         149P    103
7.15385,0.0,7.03333,7.46154,0.0,6.86667,8.15385,0.0,7.5,7.92308,     149P    104
0.0,8.13333,8.15385,0.0,7.96667,7.46154,0.0,7.98889,7.15385,0.0,     149P    105
8.0,7.0,0.0,0.0,6.0,0.0,0.0,1.0;                                     149P    106
126,5,5,1,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,1.0,1.0,     151P    107
1.0,1.0,1.0,1.0,1.0,1.0,14.0,7.5,0.0,14.0,7.66705,0.0,13.721,        151P    108
7.81647,0.0,13.279,7.81647,0.0,13.0,7.66705,0.0,13.0,7.5,0.0,        151P    109
0.0,1.0,0.0,0.0,1.0;                                                 151P    110
126,2,2,1,0,1,0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,1.0,1.0,16.0,7.75,       153P    111
0.0,15.5,7.25,0.0,15.0,7.75,0.0,0.0,1.0,0.0,0.0,1.0;                 153P    112
126,6,6,1,0,1,0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.0,1.0,1.0,1.0,1.0,     155P    113
1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.0,1.25,5.71651,0.0,1.49816,        155P    114
5.57323,0.0,1.52537,5.52714,0.0,1.49104,5.50133,0.0,1.51981,         155P    115
5.4700,0.0,1.5040,5.4302,0.0,1.25,5.2835,0.0,0.0,1.0,0.0,0.0,1.;     155P    116
102,4,81,83,85,87;                                                   157P    117
230,157,1,13.7172,2.99,0.0,0.2,0.785385,0;                           159P    118
212,1,6,1.0,0.125,1,1.0461,4.71,0,1,4.0,6.0,0.0,6HSIMPLE;            161P    119
212,9,2,0.22,0.125,1,1.5708,0.0,0,0,8.65625,3.5625,0.0,2HIM,         163P    120
3,0.35,0.125,1,1.5708,0.0,0,0,9.03125,3.65625,0.0,3HBED,             163P    121
3,0.34,0.125,1,1.5708,0.0,0,0,9.03125,3.46875,0.0,3HDED,             163P    122
4,0.44,0.125,1,1.5708,0.0,0,0,8.96875,3.5625,0.0,4H----,             163P    123
1,0.1,0.125,1002,1.5708,0.0,0,0,9.53125,3.5625,0.0,1Hi,              163P    124
2,0.24,0.125,1,1.5708,0.0,0,0,9.71875,3.5625,0.0,2HFR,               163P    125
3,0.35,0.125,1,1.5708,0.0,0,0,10.0938,3.65625,0.0,3HACT,             163P    126
3,0.32,0.125,1,1.5708,0.0,0,0,10.0938,3.46875,0.0,3HION,             163P    127
4,0.44,0.125,1,1.5708,0.0,0,0,10.0313,3.5625,0.0,4H----;             163P    128
212,12,2,0.24,0.125,1,1.5708,0.0,0,0,10.625,3.625,0.0,2HFR,          165P    129
3,0.34,0.125,1,1.5708,0.0,0,0,11.0313,3.71875,0.0,3HSUP,             165P    130
3,0.35,0.125,1,1.5708,0.0,0,0,11.0313,3.53125,0.0,3HSUB,             165P    131
4,0.44,0.125,1,1.5708,0.0,0,0,10.9688,3.625,0.0,4H----,              165P    132
1,0.12,0.125,1,1.5708,0.0,0,0,11.4375,4.1875,0.0,1HT,                165P    133
1,0.12,0.125,1,1.5708,0.0,0,0,11.8125,4.28125,0.0,1HO,               165P    134
1,0.11,0.125,1,1.5708,0.0,0,0,11.8125,4.09375,0.0,1HP,               165P    135
3,0.33,0.125,1,1.5708,0.0,0,0,11.6875,4.1875,0.0,3H---,              165P    136
2,0.24,0.125,1,1.5708,0.0,0,0,11.4375,3.0625,0.0,2HBO,               165P    137
2,0.24,0.125,1,1.5708,0.0,0,0,11.7813,3.15625,0.0,2HTT,              165P    138
2,0.26,0.125,1,1.5708,0.0,0,0,11.7813,2.96875,0.0,2HOM,              165P    139
3,0.33,0.125,1,1.5708,0.0,0,0,11.75,3.0625,0.0,3H---;                165P    140
212,8,4,0.46,0.125,1,1.5708,0.0,0,0,7.0,3.8125,0.0,4HDUAL,           167P    141
2,0.24,0.125,1,1.5708,0.0,0,0,7.625,3.90625,0.0,2HTO,                167P    142
1,0.11,0.125,1,1.5708,0.0,0,0,7.6875,3.71875,0.0,1HP,                167P    143
3,0.33,0.125,1,1.5708,0.0,0,0,7.5625,3.8125,0.0,3H---,               167P    144
5,0.56,0.125,1,1.5708,0.0,0,0,7.0,3.25,0.0,5HSTACK,                  167P    145
3,0.36,0.125,1,1.5708,0.0,0,0,7.6875,3.34375,0.0,3HBOT,              167P    146
3,0.38,0.125,1,1.5708,0.0,0,0,7.6875,3.15625,0.0,3HTOM,              167P    147
```

```
4,0.44,0.125,1,1.5708,0.0,0,0,7.65625,3.25,0.0,4H----;              167P     148
212,4,1,0.1133,0.125,1,1.5708,0.0,0,0,5.0742,3.5625,0.0,1HS,        169P     149
4,0.47,0.125,1,1.5708,0.0,0,0,5.1875,3.65625,0.0,4HFRAC,            169P     150
4,0.44,0.125,1,1.5708,0.0,0,0,5.1875,3.46875,0.0,4HTION,            169P     151
4,0.44,0.125,1,1.5708,0.0,0,0,5.1875,3.5625,0.0,4H----;             169P     152
212,3,1,0.1162,0.125,1,1.5708,0.0,0,0,3.8833,3.75,0.0,1HM,5,        171P     153
0.5376,0.125,1,1.5708,0.0,0,0,3.46,3.5625,0.0,5HSTACK,5,0.5184,     171P     154
0.125,1,1.5708,0.0,0,0,3.48167,3.375,0.0,5HRIGHT;                   171P     155
212,3,1,0.1162,0.125,1,1.5708,0.0,0,0,1.44167,3.75,0.0,1HM,5,       173P     156
0.5376,0.125,1,1.5708,0.0,0,0,1.23,3.5625,0.0,5HSTACK,6,0.648,      173P     157
0.125,1,1.5708,0.0,0,0,1.1775,3.375,0.0,6HCENTER;                   173P     158
212,3,1,0.1162,0.125,1,1.5708,0.0,0,0,15.0,5.75,0.0,1HM,5,          175P     159
0.5376,0.125,1,1.5708,0.0,0,0,15.0,5.5625,0.0,5HSTACK,4,0.4224,     175P     160
0.125,1,1.5708,0.0,0,0,15.0,5.375,0.0,4HLEFT;                       175P     161
212,3,1,0.1133,0.125,1,1.5708,0.0,0,0,13.0,5.625,0.0,1HS,5,         177P     162
0.5568,0.125,1,1.5708,0.0,0,0,13.1133,5.71875,0.0,5HSUPER,3,        177P     163
0.343,0.125,1,1.5708,0.0,0,0,13.1133,5.53125,0.0,3HSUB;             177P     164
212,2,14,1.099,0.07,1,1.5708,0.0,0,0,12.9505,2.74,0.0,14HSECTION    179P     165
ED AREA,5,0.308,0.07,1,1.5708,0.0,0,0,13.346,2.635,0.0,5H(230);     179P     166
212,2,16,1.26,0.07,1,1.5708,0.0,0,0,10.87,2.75,0.0,16HNOTE - SUP    181P     167
ER/SUB,23,1.652,0.07,1,1.5708,0.0,0,0,10.674,2.645,0.0,23HFRACTI    181P     168
ON (212 FORM 105);                                                  181P     169
212,2,18,1.442,0.07,1,1.5708,0.0,0,0,8.779,2.75,0.0,18HNOTE - FO    183P     170
NT/DOUBLE,23,1.645,0.07,1,1.5708,0.0,0,0,8.6775,2.645,0.0,23HFRA    183P     171
CTION (212 FORM 102);                                               183P     172
212,2,17,1.316,0.07,1,1.5708,0.0,0,0,6.842,2.75,0.0,17HNOTE - DU    185P     173
AL STACK,23,1.624,0.07,1,1.5708,0.0,0,0,6.688,2.645,0.0,23HFRACT    185P     174
ION (212 FORM 101);                                                 185P     175
212,2,13,1.015,0.07,1,1.5708,0.0,0,0,4.9925,2.75,0.0,13HNOTE - S    187P     176
IMPLE,23,1.652,0.07,1,1.5708,0.0,0,0,4.674,2.645,0.0,23HFRACTION    187P     177
 (212 FORM 100);                                                    187P     178
212,2,18,1.4,0.07,1,1.5708,0.0,0,0,2.8,2.75,0.0,18HNOTE - MULTI     189P     179
STACK,23,1.652,0.07,1,1.5708,0.0,0,0,2.674,2.645,0.0,23HRIGHT JU    189P     180
ST (212 FORM 8);                                                    189P     181
212,2,18,1.4,0.07,1,1.5708,0.0,0,0,0.8,2.75,0.0,18HNOTE - MULTI     191P     182
STACK,22,1.603,0.07,1,1.5708,0.0,0,0,0.698501,2.645,0.0,22HCENT     191P     183
JUST (212 FORM 7);                                                  191P     184
212,2,18,1.4,0.07,1,1.5708,0.0,0,0,14.8,4.75,0.0,18HNOTE - MULTI    193P     185
 STACK,22,1.603,0.07,1,1.5708,0.0,0,0,14.6985,4.645,0.0,22HLEFT     193P     186
JUST (212 FORM 6);                                                  193P     187
212,2,16,1.26,0.07,1,1.5708,0.0,0,0,12.87,4.75,0.0,16HNOTE - SUP    195P     188
ER/SUB,19,1.351,0.07,1,1.5708,0.0,0,0,12.8245,4.645,0.0,19HSCRIP    195P     189
T (212 FORM 5);                                                     195P     190
212,2,21,1.652,0.07,1,1.5708,0.0,0,0,2.674,4.75,0.0,21HGENERAL N    197P     191
OTE - SIMPLE,12,0.826,0.07,1,1.5708,0.0,0,0,3.087,4.645,0.0,12H(    197P     192
212 FORM 0);                                                        197P     193
212,2,14,1.141,0.07,1,1.5708,0.0,0,0,4.9295,6.75,0.0,14HTRANSFOR    199P     194
MATION,23,1.617,0.07,1,1.5708,0.0,0,0,4.6915,6.645,0.0,23HMATRIX    199P     195
 D=1 (124 FORM 0);                                                  199P     196
212,2,17,1.33,0.07,1,1.5708,0.0,0,0,2.835,6.75,0.0,17HPARAMETRIC    201P     197
 SPLINE,11,0.728,0.07,1,1.5708,0.0,0,0,3.136,6.645,0.0,11HCURVE     201P     198
(112);                                                              201P     199
212,1,10,0.63,0.07,1,1.5708,0.0,0,0,1.185,6.75,0.0,10HLINE (110)    203P     200
;                                                                   203P     201
212,2,18,1.414,0.07,1,1.5708,0.0,0,0,14.793,8.75,0.0,18HSIMPLE C    205P     202
LOSED AREA,13,0.917,0.07,1,1.5708,0.0,0,0,15.0415,8.645,0.0,13H(    205P     203
106 FORM 63);                                                       205P     204
212,2,19,1.491,0.07,1,1.5708,0.0,0,0,12.7545,8.75,0.0,19HLINEAR     207P     205
PLANAR CURVE,13,0.861,0.07,1,1.5708,0.0,0,0,13.0695,8.645,0.0,      207P     206
13H(106 FORM 11);                                                   207P     207
212,2,20,1.547,0.07,1,1.5708,0.0,0,0,10.7265,8.75,0.0,20HCONIC A    209P     208
RC - PARABOLA,12,0.84,0.07,1,1.5708,0.0,0,0,11.08,8.645,0.0,12H(    209P     209
104 FORM 3);                                                        209P     210
212,2,21,1.638,0.07,1,1.5708,0.0,0,0,8.681,8.75,0.0,21HCONIC ARC    211P     211
 - HYPERBOLA,12,0.833,0.07,1,1.5708,0.0,0,0,9.0835,8.645,0.0,12H    211P     212
(104 FORM 2);                                                       211P     213
```

```
212,2,19,1.449,0.07,1,1.5708,0.0,0,0,6.7755,8.75,0.0,19HCONIC AR      213P     214
C - ELLIPSE,12,0.812,0.07,1,1.5708,0.0,0,0,7.094,8.645,0.0,12H(1      213P     215
04 FORM 1);                                                           213P     216
212,2,19,1.477,0.07,1,1.5708,0.0,0,0,4.7615,8.75,0.0,19HCONIC AR      215P     217
C - GENERAL,12,0.84,0.07,1,1.5708,0.0,0,0,5.08,8.645,0.0,12H(104      215P     218
 FORM 0);                                                             215P     219
212,1,21,1.547,0.07,1,1.5708,0.0,0,0,2.7265,8.75,0.0,21HCOMPOSIT      217P     220
E CURVE (102);                                                        217P     221
212,1,18,1.295,0.07,1,1.5708,0.0,0,0,0.8525,8.75,0.0,18HCIRCULAR      219P     222
 ARC (100);                                                           219P     223
212,1,6,0.6188,0.125,1,1.5708,0.0,0,0,3.0,5.625,0.0,6HSIMPLE;         221P     224
212,2,23,1.792,0.07,1,1.5708,0.0,0,0,6.604,6.75,0.0,23HRATIONAL       223P     225
B-SPLINE CURVE,12,0.833,0.07,1,1.5708,0.0,0,0,7.0835,6.645,0.0,       223P     226
12H(126 FORM 0);                                                      223P     227
212,2,23,1.792,0.07,1,1.5708,0.0,0,0,8.604,6.75,0.0,23HRATIONAL       225P     228
B-SPLINE CURVE,17,1.176,0.07,1,1.5708,0.0,0,0,8.912,6.645,0.0,        225P     229
17HLINE (126 FORM 1);                                                 225P     230
212,2,23,1.792,0.07,1,1.5708,0.0,0,0,10.604,6.75,0.0,23HRATIONAL      227P     231
 B-SPLINE CURVE,25,1.834,0.07,1,1.5708,0.0,0,0,10.583,6.645,0.0,      227P     232
25HCIRCULAR ARC (126 FORM 2);                                         227P     233
212,2,23,1.792,0.07,1,1.5708,0.0,0,0,12.604,6.75,0.0,23HRATIONAL      229P     234
 B-SPLINE CURVE,27,1.974,0.07,1,1.5708,0.0,0,0,12.513,6.645,0.0,      229P     235
27HELLIPTICAL ARC (126 FORM 3);                                       229P     236
212,2,23,1.792,0.07,1,1.5708,0.0,0,0,14.604,6.75,0.0,23HRATIONAL      231P     237
 B-SPLINE CURVE,26,1.911,0.07,1,1.5708,0.0,0,0,14.5445,6.645,         231P     238
0.0,26HPARABOLIC ARC (126 FORM 4);                                    231P     239
212,2,23,1.792,0.07,1,1.5708,0.0,0,0,0.604002,4.75,0.0,23HRATION      233P     240
AL B-SPLINE CURVE,27,2.002,0.07,1,1.5708,0.0,0,0,0.499002,4.645,      233P     241
0.0,27HHYPERBOLIC ARC (126 FORM 5);                                   233P     242
212,2,16,1.239,0.07,1,1.5708,0.0,0,0,0.8805,0.75,0.0,16HSINGLE S      235P     243
UBFIGURE,14,1.068,0.07,1,1.5708,0.0,0,0,0.946,0.645,0.0,14HINSTA      235P     244
NCE (408);                                                            235P     245
212,2,21,1.68,0.07,1,1.5708,0.0,0,0,2.66,0.75,0.0,21HRECTANGULAR      237P     246
 SUBFIGURE,14,1.026,0.07,1,1.5708,0.0,0,0,2.967,0.645,0.0,14HINS      237P     247
TANCE (412);                                                          237P     248
212,2,18,1.414,0.07,1,1.5708,0.0,0,0,4.793,0.75,0.0,18HCIRCULAR       239P     249
SUBFIGURE,14,1.033,0.07,1,1.5708,0.0,0,0,5.0335,0.645,0.0,14HINS      239P     250
TANCE (414);                                                          239P     251
212,5,17,1.746,0.09,1,1.5708,0.0,0,0,14.627,1.75,0.0,17HCALS TES      241P     252
T NETWORK,11,1.098,0.09,1,1.5708,0.0,0,0,14.951,1.615,0.0,11HMIL      241P     253
-D-28000,7,0.666,0.09,1,1.5708,0.0,0,0,15.167,1.48,0.0,7HCLASS I      241P     254
,17,1.755,0.09,1,1.5708,0.0,0,0,14.6225,1.345,0.0,17HREFERENCE D      241P     255
RAWING,8,0.783,0.09,1,1.5708,0.0,0,0,15.1085,1.21,0.0,8HI-ENTITY      241P     256
;                                                                     241P     257
212,3,2,0.2002,0.125,1,1.5708,0.0,0,0,7.0,5.625,0.0,2HIM,3,0.3,       243P     258
0.125,1002,1.5708,0.0,0,0,7.2,5.625,0.0,3Hbed,3,0.2992,0.125,1,       243P     259
1.5708,0.0,0,0,7.5,5.625,0.0,3HDED;                                   243P     260
212,2,1,0.1133,0.125,1,1.5708,0.0,0,0,11.0,5.625,0.0,1HS,3,           245P     261
0.343,0.125,1,1.5708,0.0,0,0,11.1133,5.53125,0.0,3HSUB;               245P     262
212,2,1,0.1133,0.125,1,1.5708,0.0,0,0,9.0,5.625,0.0,1HS,5,            247P     263
0.5568,0.125,1,1.5708,0.0,0,0,9.1133,5.71875,0.0,5HSUPER;             247P     264
212,2,4,0.4324,0.125,1,1.5708,0.0,0,0,5.0,5.625,0.0,4HDUAL,5,         249P     265
0.5376,0.125,1,1.5708,0.0,0,0,5.0,5.4375,0.0,5HSTACK;                 249P     266
212,2,16,1.246,0.07,1,1.5708,0.0,0,0,10.877,4.75,0.0,16HNOTE - S      251P     267
UBSCRIPT,12,0.826,0.07,1,1.5708,0.0,0,0,11.087,4.645,0.0,12H(212      251P     268
 FORM 4);                                                             251P     269
212,2,18,1.407,0.07,1,1.5708,0.0,0,0,8.7965,4.75,0.0,18HNOTE - S      253P     270
UPERSCRIPT,12,0.826,0.07,1,1.5708,0.0,0,0,9.087,4.645,0.0,12H(21      253P     271
2 FORM 3);                                                            253P     272
212,2,20,1.575,0.07,1,1.5708,0.0,0,0,6.7125,4.75,0.0,20HNOTE - I      255P     273
MBEDDED FONT,19,1.365,0.07,1,1.5708,0.0,0,0,6.8175,4.645,0.0,19H      255P     274
CHANGE (212 FORM 2);                                                  255P     275
212,2,17,1.316,0.07,1,1.5708,0.0,0,0,4.842,4.75,0.0,17HNOTE - DU      257P     276
AL STACK,12,0.798,0.07,1,1.5708,0.0,0,0,5.101,4.645,0.0,12H(212       257P     277
FORM 1);                                                              257P     278
212,2,22,1.722,0.07,1,1.5708,0.0,0,0,14.639,2.75,0.0,22HINTERCHA      259P     279
```

```
RACTER SPACING,13,0.924,0.07,1,1.5708,0.0,0,0,15.038,2.645,0.0,     259P    280
13H(406 FORM 18);                                                   259P    281
212,1,7,1.3,0.125,1,1.5708,0.0,0,0,                                 261P    282
14.8,3.5,0.0,7HSPACING,                                             261P    283
0,1,289;                                                            261P    284
408,25,1.5,1.5,0.0,1.0;                                             263P    285
0;                                                                  265P    286
0;                                                                  267P    287
0;                                                                  269P    288
0;                                                                  271P    289
0;                                                                  273P    290
0;                                                                  275P    291
0;                                                                  277P    292
102,3,59,57,141;                                                    279P    293
0;                                                                  281P    294
0;                                                                  283P    295
406,2,17.0,11.0;                                                    285P    296
404,1,55,0.0,0.0,0,0,1,285;                                         287P    297
406,1,80.0;                                                         289P    298
412,25,1.0,3.0,1.0,0.0,2,2,1.0,0.75,0.0,0;                          291P    299
414,25,3,5.5,1.5,0.0,0.5,0.5236,2.0944,0;                           293P    300
100,0.0,0.0,0.0,-0.5,0.0,0.5,0.0;                                   295P    301
S      16G       3D      296P     301                                  T      1
```

Attachment I

LGTABLE IGES File Printout

```
CONFORMANCE:  This IGES file conforms to the Technical Illustration   S       1
              Class I Subset of MIL-D-28000 Amendment 1, 20 Dec. 1988. S      2
                                                                      S       3
ILLUSTRATION                                                          S       4
IDENTIFIER:   LGTABLE, Rev. A - Landing Gear Tabular Illustration for S       5
              the CALS Test Network Reference Technical Publication.  S       6
              Developed from a McDonnell Aircraft Company illustration. S     7
                                                                      S       8
1H,,1H;,7HLGTABLE,7HLGTABLE,4HNONE,4HTEST,32,38,6,308,15,             G       1
7HLGTABLE,1.0,1,2HIN,25,0.1,                                          G       2
13H890707.090000,0.0001,20.0,                                         G       3
7HFARRELL,17HCALS TEST NETWORK,6,0;                                   G       4
     410       1       0       0       0       0       0 000020100D       1
     410       0       0       1       0       0       0VIEW      1D       2
     406       2       0       0       0       0       0 000020001D       3
     406       0       0       1      16       0       0          2D       4
     404       3       0       0       0       0       0 000000101D       5
     404       0       0       1       0       0       0DRAWING   3D       6
     212       4       0       0       0       0       0 000000101D       7
     212       0       0       2       0       0       0TX0044    4D       8
     110       6       0       1       0       0       0 000000101D       9
     110       0       0       2       0       0       0TX0044    5D      10
     110       8       0       1       0       0       0 000010101D      11
     110       0       0       2       0       0       0TX0044    6D      12
     110      10       0       1       0       0       0 000010101D      13
     110       0       0       2       0       0       0TX0044    7D      14
     110      12       0       1       0       0       0 000010101D      15
     110       0       0       2       0       0       0TX0044    8D      16
     212      14       0       0       0       0       0 000000101D      17
     212       0       0       2       0       0       0TX0045    9D      18
     110      16       0       1       0       0       0 000000101D      19
     110       0       0       2       0       0       0TX0045   10D      20
     110      18       0       1       0       0       0 000010101D      21
     110       0       0       2       0       0       0TX0045   11D      22
     110      20       0       1       0       0       0 000010101D      23
     110       0       0       2       0       0       0TX0045   12D      24
     110      22       0       1       0       0       0 000010101D      25
     110       0       0       2       0       0       0TX0045   13D      26
     110      24       0       1       0       0       0 000000001D      27
     110       3       4       2       0       0       0LN0141   14D      28
     110      26       0       1       0       0       0 000000001D      29
     110       3       4       2       0       0       0LN0142   15D      30
     110      28       0       1       0       0       0 000000001D      31
     110       2       0       2       0       0       0LN0143   16D      32
     110      30       0       1       0       0       0 000000001D      33
     110       3       4       2       0       0       0LN0144   17D      34
     110      32       0       1       0       0       0 000000001D      35
     110       2       0       2       0       0       0LN0145   18D      36
     110      34       0       1       0       0       0 000000001D      37
     110       3       4       2       0       0       0LN0146   19D      38
     110      36       0       1       0       0       0 000000001D      39
     110       4       7       2       0       0       0LN0147   20D      40
     112      38       0       1       0       0       0 000000001D      41
     112       4       7       6       0       0       0PC0013   21D      42
     112      44       0       1       0       0       0 000000001D      43
     112       4       7       5       0       0       0PC0014   22D      44
     112      49       0       1       0       0       0 000000001D      45
     112       4       7       6       0       0       0PC0015   23D      46
     112      55       0       1       0       0       0 000000001D      47
     112       2       0       5       0       0       0PC0016   24D      48
     112      60       0       1       0       0       0 000000001D      49
     112       3       4       6       0       0       0PC0017   25D      50
     112      66       0       1       0       0       0 000000001D      51
     112       4       7       6       0       0       0PC0018   26D      52
     112      72       0       1       0       0       0 000000001D      53
     112       3       4       6       0       0       0PC0019   27D      54
```

```
 112      78      0      1      0      0      0        000000001D     55
 112       4      7      6      0      0      0PC0020        28D     56
 112      84      0      1      0      0      0        000000001D     57
 112       3      4      6      0      0      0PC0021        29D     58
 112      90      0      1      0      0      0        000000001D     59
 112       4      7      6      0      0      0PC0022        30D     60
 110      96      0      1      0      0      0        000000001D     61
 110       4      7      2      0      0      0LN0148        31D     62
 110      98      0      1      0      0      0        000000001D     63
 110       4      7      2      0      0      0LN0149        32D     64
   0     100      0      0      0      0      0        000000001D     65
   0       0      0      2      0      0      0MATRIX        33D     66
 100     102      0      1      0      0      0        000000001D     67
 100       4      7      2      0      0      0CR0093        34D     68
 110     104      0      1      0      0      0        000000001D     69
 110       2      0      2      0      0      0LN0150        35D     70
 110     106      0      1      0      0      0        000000001D     71
 110       2      0      2      0      0      0LN0151        36D     72
 110     108      0      1      0      0      0        000000001D     73
 110       4      7      2      0      0      0LN0152        37D     74
 110     110      0      1      0      0      0        000000001D     75
 110       4      7      2      0      0      0LN0153        38D     76
 110     112      0      1      0      0      0        000000001D     77
 110       4      7      2      0      0      0LN0154        39D     78
 110     114      0      1      0      0      0        000000001D     79
 110       4      7      2      0      0      0LN0155        40D     80
 110     116      0      1      0      0      0        000000001D     81
 110       4      7      2      0      0      0LN0156        41D     82
 110     118      0      1      0      0      0        000000001D     83
 110       4      7      2      0      0      0LN0157        42D     84
   0     120      0      0      0      0      0        000000001D     85
   0       0      0      3      0      0      0MATRIX        43D     86
   0     123      0      1      0      0      0        000000001D     87
   0       2      0      3      0      0      0LC0007        44D     88
 124     126      0      0      0      0      0        000000001D     89
 124       0      0      3      0      0      0MATRIX        45D     90
 104     129      0      1      0      0     89        000000001D     91
 104       3      4      3      0      0      0LC0008        46D     92
 124     132      0      0      0      0      0        000000001D     93
 124       0      0      3      0      0      0MATRIX        47D     94
 104     135      0      1      0      0     93        000000001D     95
 104       4      7      3      0      0      0LC0009        48D     96
 104     138      0      1      0      0     89        000000001D     97
 104       2      0      3      0      0      0LC0010        49D     98
 112     141      0      1      0      0      0        000000001D     99
 112       4      7      5      0      0      0PC0023        50D    100
 100     146      0      1      0      0      0        000000001D    101
 100       2      0      2      0      0      0CR0094        51D    102
 110     148      0      1      0      0      0        000000001D    103
 110       4      7      2      0      0      0LN0158        52D    104
 110     150      0      1      0      0      0        000000001D    105
 110       2      0      2      0      0      0LN0159        53D    106
 110     152      0      1      0      0      0        000000001D    107
 110       2      0      2      0      0      0LN0160        54D    108
 110     154      0      1      0      0      0        000000001D    109
 110       2      0      2      0      0      0LN0161        55D    110
 110     156      0      1      0      0      0        000000001D    111
 110       2      0      2      0      0      0LN0162        56D    112
 110     158      0      1      0      0      0        000000001D    113
 110       2      0      2      0      0      0LN0163        57D    114
 110     160      0      1      0      0      0        000000001D    115
 110       2      0      2      0      0      0LN0164        58D    116
 110     162      0      1      0      0      0        000000001D    117
 110       3      4      2      0      0      0LN0165        59D    118
 110     164      0      1      0      0      0        000000001D    119
 110       3      4      2      0      0      0LN0166        60D    120
```

```
110     166      0      1      0      0      0        000000001D    121
110       3      4      2      0      0      0LN0167         61D    122
110     168      0      1      0      0      0        000000001D    123
110       3      4      2      0      0      0LN0168         62D    124
100     170      0      1      0      0      0        000000001D    125
100       4      7      2      0      0      0CR0095         63D    126
110     172      0      1      0      0      0        000000001D    127
110       4      7      2      0      0      0LN0169         64D    128
110     174      0      1      0      0      0        000000001D    129
110       4      7      2      0      0      0LN0170         65D    130
100     176      0      1      0      0      0        000000001D    131
100       4      7      2      0      0      0CR0096         66D    132
110     178      0      1      0      0      0        000000001D    133
110       4      7      2      0      0      0LN0171         67D    134
110     180      0      1      0      0      0        000000001D    135
110       2      0      2      0      0      0LN0172         68D    136
110     182      0      1      0      0      0        000000001D    137
110       2      0      2      0      0      0LN0173         69D    138
110     184      0      1      0      0      0        000000001D    139
110       2      0      2      0      0      0LN0174         70D    140
110     186      0      1      0      0      0        000000001D    141
110       2      0      2      0      0      0LN0175         71D    142
110     188      0      1      0      0      0        000000001D    143
110       3      4      2      0      0      0LN0176         72D    144
110     190      0      1      0      0      0        000000001D    145
110       3      4      2      0      0      0LN0177         73D    146
110     192      0      1      0      0      0        000000001D    147
110       2      0      2      0      0      0LN0178         74D    148
100     194      0      1      0      0      0        000000001D    149
100       2      0      2      0      0      0CR0097         75D    150
110     196      0      1      0      0      0        000000001D    151
110       3      4      2      0      0      0LN0179         76D    152
110     198      0      1      0      0      0        000000001D    153
110       3      4      2      0      0      0LN0180         77D    154
124     200      0      0      0      0      0        000000001D    155
124       0      0      3      0      0      0MATRIX         78D    156
104     203      0      1      0      0    155        000000001D    157
104       2      0      4      0      0      0LC0011         79D    158
110     207      0      1      0      0      0        000000001D    159
110       2      0      2      0      0      0LN0181         80D    160
110     209      0      1      0      0      0        000000001D    161
110       2      0      2      0      0      0LN0182         81D    162
110     211      0      1      0      0      0        000000001D    163
110       3      4      2      0      0      0LN0183         82D    164
110     213      0      1      0      0      0        000000001D    165
110       3      4      2      0      0      0LN0184         83D    166
110     215      0      1      0      0      0        000000001D    167
110       3      4      2      0      0      0LN0185         84D    168
110     217      0      1      0      0      0        000000001D    169
110       2      0      2      0      0      0LN0186         85D    170
110     219      0      1      0      0      0        000000001D    171
110       2      0      2      0      0      0LN0187         86D    172
100     221      0      1      0      0      0        000000001D    173
100       2      0      2      0      0      0CR0098         87D    174
100     223      0      1      0      0      0        000000001D    175
100       4      7      2      0      0      0CR0099         88D    176
110     225      0      1      0      0      0        000000001D    177
110       3      4      2      0      0      0LN0188         89D    178
110     227      0      1      0      0      0        000000001D    179
110       3      4      2      0      0      0LN0189         90D    180
110     229      0      1      0      0      0        000000001D    181
110       2      0      2      0      0      0LN0190         91D    182
110     231      0      1      0      0      0        000000001D    183
110       2      0      2      0      0      0LN0191         92D    184
110     233      0      1      0      0      0        000000001D    185
110       2      0      2      0      0      0LN0192         93D    186
```

```
110   235   0   1   0   0   0          000000001D   187
110     3   4   2   0   0   0LN0193           94D   188
100   237   0   1   0   0   0          000000001D   189
100     4   7   2   0   0   0CR0100           95D   190
110   239   0   1   0   0   0          000000001D   191
110     2   0   2   0   0   0LN0194           96D   192
112   241   0   1   0   0   0          000000001D   193
112     4   7   6   0   0   0PC0024           97D   194
110   247   0   1   0   0   0          000000001D   195
110     4   7   2   0   0   0LN0195           98D   196
110   249   0   1   0   0   0          000000001D   197
110     4   7   2   0   0   0LN0196           99D   198
100   251   0   1   0   0   0          000000001D   199
100     2   0   2   0   0   0CR0101          100D   200
110   253   0   1   0   0   0          000000001D   201
110     4   7   2   0   0   0LN0197          101D   202
110   255   0   1   0   0   0          000000001D   203
110     4   7   2   0   0   0LN0198          102D   204
104   257   0   1   0   0 155          000000001D   205
104     4   7   3   0   0   0LC0012          103D   206
110   260   0   1   0   0   0          000000001D   207
110     4   7   2   0   0   0LN0199          104D   208
100   262   0   1   0   0   0          000000001D   209
100     4   7   2   0   0   0CR0102          105D   210
  0   264   0   1   0   0   0          000000001D   211
  0     3   4   2   0   0   0LN0200          106D   212
110   266   0   1   0   0   0          000000001D   213
110     4   7   2   0   0   0LN0201          107D   214
110   268   0   1   0   0   0          000000001D   215
110     4   7   2   0   0   0LN0202          108D   216
110   270   0   1   0   0   0          000000001D   217
110     4   7   2   0   0   0LN0203          109D   218
100   272   0   1   0   0   0          000000001D   219
100     4   7   2   0   0   0CR0103          110D   220
100   274   0   1   0   0   0          000000001D   221
100     2   0   2   0   0   0CR0104          111D   222
110   276   0   1   0   0   0          000000001D   223
110     4   7   2   0   0   0LN0204          112D   224
100   278   0   1   0   0   0          000000001D   225
100     4   7   2   0   0   0CR0105          113D   226
100   280   0   1   0   0   0          000000001D   227
100     2   0   2   0   0   0CR0106          114D   228
100   282   0   1   0   0   0          000000001D   229
100     2   0   2   0   0   0CR0107          115D   230
110   284   0   1   0   0   0          000000001D   231
110     2   0   2   0   0   0LN0205          116D   232
110   286   0   1   0   0   0          000000001D   233
110     2   0   2   0   0   0LN0206          117D   234
110   288   0   1   0   0   0          000000001D   235
110     2   0   2   0   0   0LN0207          118D   236
110   290   0   1   0   0   0          000000001D   237
110     2   0   2   0   0   0LN0208          119D   238
110   292   0   1   0   0   0          000000001D   239
110     2   0   2   0   0   0LN0209          120D   240
110   294   0   1   0   0   0          000000001D   241
110     4   7   1   0   0   0LN0210          121D   242
110   295   0   1   0   0   0          000000001D   243
110     4   7   1   0   0   0LN0211          122D   244
110   296   0   1   0   0   0          000000001D   245
110     2   0   1   0   0   0LN0212          123D   246
110   297   0   1   0   0   0          000000001D   247
110     2   0   1   0   0   0LN0213          124D   248
110   298   0   1   0   0   0          000000001D   249
110     2   0   1   0   0   0LN0214          125D   250
110   299   0   1   0   0   0          000000001D   251
110     2   0   1   0   0   0LN0215          126D   252
```

```
110     300     0     1     0     0     0         000000001D     253
110       2     0     1     0     0     0LN0216         127D     254
110     301     0     1     0     0     0         000000001D     255
110       4     7     1     0     0     0LN0217         128D     256
212     302     0     0     0     0     0         000000101D     257
212       0     0     2     0     0     0TX0046         129D     258
212     304     0     0     0     0     0         000000101D     259
212       0     0     3     0     0     0TX0047         130D     260
212     307     0     0     0     0     0         000000101D     261
212       0     0     2     0     0     0TX0048         131D     262
212     309     0     0     0     0     0         000000101D     263
212       0     0     2     0     0     0TX0049         132D     264
212     311     0     0     0     0     0         000000101D     265
212       0     0     2     0     0     0TX0050         133D     266
212     313     0     0     0     0     0         000000101D     267
212       0     0     2     0     0     0TX0051         134D     268
212     315     0     0     0     0     0         000000101D     269
212       0     0     6     0     0     0TX0052         135D     270
110     321     0     1     0     0     0         000000001D     271
110       4     7     1     0     0     0LN0218         136D     272
212     322     0     0     0     0     0         000000101D     273
212       0     0     6     0     0     0TX0053         137D     274
212     328     0     0     0     0     0         000000101D     275
212       0     0     6     0     0     0TX0054         138D     276
212     334     0     0     0     0     0         000000101D     277
212       0     0     6     0     0     0TX0055         139D     278
212     340     0     0     0     0     0         000000101D     279
212       0     0     6     0     0     0TX0056         140D     280
212     346     0     0     0     0     0         000000101D     281
212       0     0     2     0     0     0TX0057         141D     282
110     348     0     1     0     0     0         000000001D     283
110       4     7     2     0     0     0LN0219         142D     284
110     350     0     1     0     0     0         000000001D     285
110       4     7     2     0     0     0LN0220         143D     286
100     352     0     1     0     0     0         000000001D     287
100       4     7     2     0     0     0CR0108         144D     288
110     354     0     1     0     0     0         000000001D     289
110       4     7     2     0     0     0LN0221         145D     290
110     356     0     1     0     0     0         000000001D     291
110       2     0     2     0     0     0LN0222         146D     292
110     358     0     1     0     0     0         000000001D     293
110       2     0     2     0     0     0LN0223         147D     294
110     360     0     1     0     0     0         000000001D     295
110       2     0     2     0     0     0LN0224         148D     296
110     362     0     1     0     0     0         000000001D     297
110       2     0     2     0     0     0LN0225         149D     298
110     364     0     1     0     0     0         000000001D     299
110       2     0     2     0     0     0LN0226         150D     300
110     366     0     1     0     0     0         000000001D     301
110       4     7     2     0     0     0LN0227         151D     302
110     368     0     1     0     0     0         000000001D     303
110       2     0     2     0     0     0LN0228         152D     304
100     370     0     1     0     0     0         000000001D     305
100       4     7     2     0     0     0CR0109         153D     306
110     372     0     1     0     0     0         000000001D     307
110       2     0     2     0     0     0LN0229         154D     308
100     374     0     1     0     0     0         000000001D     309
100       2     0     2     0     0     0CR0110         155D     310
110     376     0     1     0     0     0         000000001D     311
110       2     0     2     0     0     0LN0230         156D     312
110     378     0     1     0     0     0         000000001D     313
110       4     7     2     0     0     0LN0231         157D     314
100     380     0     1     0     0     0         000000001D     315
100       4     7     2     0     0     0CR0111         158D     316
110     382     0     1     0     0     0         000000001D     317
110       2     0     2     0     0     0LN0232         159D     318
```

```
100     384    0    1    0    0    0       000000001D    319
100       2    0    2    0    0    0CR0112       160D    320
100     386    0    1    0    0    0       000000001D    321
100       2    0    2    0    0    0CR0113       161D    322
100     388    0    1    0    0    0       000010001D    323
100       2    0    2    0    0    0CR0114       162D    324
100     390    0    1    0    0    0       000010001D    325
100       2    0    2    0    0    0CR0115       163D    326
100     392    0    1    0    0    0       000010001D    327
100       2    0    2    0    0    0CR0116       164D    328
100     394    0    1    0    0    0       000000001D    329
100       2    0    2    0    0    0CR0117       165D    330
100     396    0    1    0    0    0       000000001D    331
100       2    0    2    0    0    0CR0118       166D    332
100     398    0    1    0    0    0       000000001D    333
100       2    0    2    0    0    0CR0119       167D    334
100     400    0    1    0    0    0       000000001D    335
100       2    0    2    0    0    0CR0120       168D    336
100     402    0    1    0    0    0       000000001D    337
100       2    0    2    0    0    0CR0121       169D    338
100     404    0    1    0    0    0       000000001D    339
100       2    0    2    0    0    0CR0122       170D    340
100     406    0    1    0    0    0       000000001D    341
100       2    0    2    0    0    0CR0123       171D    342
100     408    0    1    0    0    0       000000001D    343
100       2    0    2    0    0    0CR0124       172D    344
110     410    0    1    0    0    0       000000001D    345
110       4    7    2    0    0    0LN0233       173D    346
110     412    0    1    0    0    0       000000001D    347
110       4    7    2    0    0    0LN0234       174D    348
100     414    0    1    0    0    0       000000001D    349
100       2    0    2    0    0    0CR0125       175D    350
100     416    0    1    0    0    0       000000001D    351
100       2    0    2    0    0    0CR0126       176D    352
110     418    0    1    0    0    0       000000001D    353
110       4    7    2    0    0    0LN0235       177D    354
100     420    0    1    0    0    0       000000001D    355
100       2    0    2    0    0    0CR0127       178D    356
100     422    0    1    0    0    0       000000001D    357
100       2    0    2    0    0    0CR0128       179D    358
100     424    0    1    0    0    0       000000001D    359
100       2    0    2    0    0    0CR0129       180D    360
100     426    0    1    0    0    0       000000001D    361
100       2    0    2    0    0    0CR0130       181D    362
100     428    0    1    0    0    0       000000001D    363
100       2    0    2    0    0    0CR0131       182D    364
100     430    0    1    0    0    0       000000001D    365
100       2    0    2    0    0    0CR0132       183D    366
100     432    0    1    0    0    0       000000001D    367
100       2    0    2    0    0    0CR0133       184D    368
100     434    0    1    0    0    0       000000001D    369
100       2    0    2    0    0    0CR0134       185D    370
100     436    0    1    0    0    0       000000001D    371
100       2    0    2    0    0    0CR0135       186D    372
100     438    0    1    0    0    0       000000001D    373
100       2    0    2    0    0    0CR0136       187D    374
100     440    0    1    0    0    0       000000001D    375
100       2    0    2    0    0    0CR0137       188D    376
100     442    0    1    0    0    0       000000001D    377
100       2    0    2    0    0    0CR0138       189D    378
100     444    0    1    0    0    0       000000001D    379
100       2    0    2    0    0    0CR0139       190D    380
100     446    0    1    0    0    0       000000001D    381
100       2    0    2    0    0    0CR0140       191D    382
100     448    0    1    0    0    0       000000001D    383
100       2    0    2    0    0    0CR0141       192D    384
```

```
100   450   0   1   0   0   0         000000001D   385
100     2   0   2   0   0   0CR0142         193D   386
100   452   0   1   0   0   0         000000001D   387
100     2   0   2   0   0   0CR0143         194D   388
100   454   0   1   0   0   0         000000001D   389
100     2   0   2   0   0   0CR0144         195D   390
100   456   0   1   0   0   0         000000001D   391
100     2   0   2   0   0   0CR0145         196D   392
100   458   0   1   0   0   0         000000001D   393
100     2   0   2   0   0   0CR0146         197D   394
100   460   0   1   0   0   0         000000001D   395
100     2   0   2   0   0   0CR0147         198D   396
110   462   0   1   0   0   0         000000001D   397
110     4   7   2   0   0   0LN0236         199D   398
100   464   0   1   0   0   0         000000001D   399
100     2   0   2   0   0   0CR0148         200D   400
100   466   0   1   0   0   0         000000001D   401
100     4   7   2   0   0   0CR0149         201D   402
212   468   0   0   0   0   0         000000101D   403
212     0   0   2   0   0   0TX0058         202D   404
212   470   0   0   0   0   0         000000101D   405
212     0   0   2   0   0   0TX0059         203D   406
100   472   0   1   0   0   0         000000001D   407
100     2   0   2   0   0   0CR0150         204D   408
100   474   0   1   0   0   0         000000001D   409
100     2   0   2   0   0   0CR0151         205D   410
100   476   0   1   0   0   0         000000001D   411
100     2   0   2   0   0   0CR0152         206D   412
100   478   0   1   0   0   0         000000001D   413
100     2   0   2   0   0   0CR0153         207D   414
100   480   0   1   0   0   0         000000001D   415
100     2   0   2   0   0   0CR0154         208D   416
100   482   0   1   0   0   0         000000001D   417
100     2   0   2   0   0   0CR0155         209D   418
212   484   0   0   0   0   0         000000101D   419
212     0   0   2   0   0   0TX0060         210D   420
100   486   0   1   0   0   0         000000001D   421
100     2   0   2   0   0   0CR0156         211D   422
100   488   0   1   0   0   0         000000001D   423
100     2   0   2   0   0   0CR0157         212D   424
110   490   0   2   0   0   0         000000001D   425
110     2   0   2   0   0   0LN0237         213D   426
100   492   0   1   0   0   0         000000001D   427
100     2   0   2   0   0   0CR0158         214D   428
100   494   0   1   0   0   0         000000001D   429
100     2   0   2   0   0   0CR0159         215D   430
100   496   0   1   0   0   0         000000001D   431
100     2   0   2   0   0   0CR0160         216D   432
100   498   0   1   0   0   0         000000001D   433
100     2   0   2   0   0   0CR0161         217D   434
100   500   0   1   0   0   0         000000001D   435
100     2   0   2   0   0   0CR0162         218D   436
110   502   0   2   0   0   0         000000001D   437
110     2   0   2   0   0   0LN0238         219D   438
110   504   0   2   0   0   0         000000001D   439
110     2   0   2   0   0   0LN0239         220D   440
110   506   0   2   0   0   0         000000001D   441
110     2   0   2   0   0   0LN0240         221D   442
110   508   0   2   0   0   0         000000001D   443
110     2   0   2   0   0   0LN0241         222D   444
110   510   0   2   0   0   0         000000001D   445
110     2   0   2   0   0   0LN0242         223D   446
100   512   0   1   0   0   0         000000001D   447
100     2   0   2   0   0   0CR0163         224D   448
100   514   0   1   0   0   0         000000001D   449
100     2   0   2   0   0   0CR0164         225D   450
```

100	516	0	1	0	0	0	000000001D	451
100	2	0	2	0	0	0CR0165	226D	452
100	518	0	1	0	0	0	000000001D	453
100	2	0	2	0	0	0CR0166	227D	454
100	520	0	1	0	0	0	000000001D	455
100	2	0	2	0	0	0CR0167	228D	456
100	522	0	1	0	0	0	000000001D	457
100	2	0	2	0	0	0CR0168	229D	458
100	524	0	1	0	0	0	000000001D	459
100	2	0	2	0	0	0CR0169	230D	460
100	526	0	1	0	0	0	000000001D	461
100	2	0	2	0	0	0CR0170	231D	462
100	528	0	1	0	0	0	000000001D	463
100	2	0	2	0	0	0CR0171	232D	464
110	530	0	2	0	0	0	000000001D	465
110	2	0	2	0	0	0LN0243	233D	466
110	532	0	2	0	0	0	000000001D	467
110	2	0	2	0	0	0LN0244	234D	468
100	534	0	1	0	0	0	000000001D	469
100	4	7	2	0	0	0CR0172	235D	470
100	536	0	1	0	0	0	000000001D	471
100	2	0	2	0	0	0CR0173	236D	472
110	538	0	1	0	0	0	000000001D	473
110	4	7	2	0	0	0LN0245	237D	474
110	540	0	1	0	0	0	000000001D	475
110	4	7	2	0	0	0LN0246	238D	476
212	542	0	0	0	0	0	000000101D	477
212	0	0	2	0	0	0TX0061	239D	478
110	544	0	1	0	0	0	000000001D	479
110	4	7	2	0	0	0LN0247	240D	480
212	546	0	0	0	0	0	000000101D	481
212	0	0	2	0	0	0TX0062	241D	482
100	548	0	1	0	0	0	000000001D	483
100	4	7	2	0	0	0CR0174	242D	484
212	550	0	0	0	0	0	000000101D	485
212	0	0	2	0	0	0TX0063	243D	486
212	552	0	0	0	0	0	000000101D	487
212	0	0	2	0	0	0TX0064	244D	488
212	554	0	0	0	0	0	000000101D	489
212	0	0	2	0	0	0TX0065	245D	490
212	556	0	0	0	0	0	000000101D	491
212	0	0	2	0	0	0TX0066	246D	492
212	558	0	0	0	0	0	000000101D	493
212	0	0	2	0	0	0TX0067	247D	494
212	560	0	0	0	0	0	000000101D	495
212	0	0	2	0	0	0TX0068	248D	496
212	562	0	0	0	0	0	000000101D	497
212	0	0	2	0	0	0TX0069	249D	498
212	564	0	0	0	0	0	000000101D	499
212	0	0	2	0	0	0TX0070	250D	500
212	566	0	0	0	0	0	000000101D	501
212	0	0	2	0	0	0TX0071	251D	502
212	568	0	0	0	0	0	000000101D	503
212	0	0	2	0	0	0TX0072	252D	504
212	570	0	0	0	0	0	000000101D	505
212	0	0	2	0	0	0TX0073	253D	506
212	572	0	0	0	0	0	000000101D	507
212	0	0	2	0	0	0TX0074	254D	508
212	574	0	0	0	0	0	000000101D	509
212	0	0	2	0	0	0TX0075	255D	510
212	576	0	0	0	0	0	000000101D	511
212	0	0	2	0	0	0TX0076	256D	512
212	578	0	0	0	0	0	000000101D	513
212	0	0	2	0	0	0TX0077	257D	514
212	580	0	0	0	0	0	000000101D	515
212	0	0	2	0	0	0TX0078	258D	516

```
     100      582       0       1       0       0       0       000000001D     517
     100        2       0       2       0       0       0CR0175      259D     518
     110      584       0       1       0       0       0       000000001D     519
     110        2       0       2       0       0       0LN0248      260D     520
     100      586       0       1       0       0       0       000000001D     521
     100        2       0       2       0       0       0CR0176      261D     522
     212      588       0       0       0       0       0       000000101D     523
     212        0       0       2       0       0       0TX0079      262D     524
     110      590       0       2       0       0       0       000000001D     525
     110        2       0       2       0       0       0LN0249      263D     526
     100      592       0       1       0       0       0       000000001D     527
     100        2       0       2       0       0       0CR0177      264D     528
     212      594       0       0       0       0       0       000000101D     529
     212        0       0       3       0       0       0TX0080      265D     530
     102      597       0       1       0       0       0       000010101D     531
     102        0       0       2       0       0       0CC0001      266D     532
     102      599       0       1       0       0       0       000010101D     533
     102        0       0       2       0       0       0CC0002      267D     534
     230      601       0       1       0       0       0       000000101D     535
     230        0       0       1       0       0       0SA0001      268D     536
     230      602       0       1       0       0       0       000000101D     537
     230        0       0       1       0       0       0SA0002      269D     538
     230      603       0       1       0       0       0       000000101D     539
     230        0       0       1       0       0       0SA0003      270D     540
     230      604       0       1       0       0       0       000000101D     541
     230        0       0       1       0       0       0SA0004      271D     542
     230      605       0       1       0       0       0       000000101D     543
     230        0       0       1       0       0       0SA0005      272D     544
410,1,1.0,0,0,0,0,0,0,0,0;                                             1P      1
406,2,8.0,10.0,0,0;                                                    3P      2
404,1,1,0.0,0.0,0,0,1,3;                                               5P      3
212,1,8,0.447288888889,0.737499967217E-01,1,1.57079648972,0.0,         7P      4
0,0,3.98648322635,6.38281513378,0.0,8H52Z-C007,0,0;                    7P      5
110,3.139793396,7.63025188446,0.0,3.9621776708,6.41969013214,          9P      6
0.0,0,0;                                                               9P      7
110,3.139793396,7.63025188446,0.0,3.26575749424,7.49821762393,        11P      8
0.0,0,0;                                                              11P      9
110,3.139793396,7.63025188446,0.0,3.21612670173,7.46450138993,        13P     10
0.0,0,0;                                                              13P     11
110,3.26575749424,7.49821762393,0.0,3.21612670173,                    15P     12
7.46450138993,0.0,0,0;                                                15P     13
212,1,7,0.391377777778,0.737499967217E-01,1,1.57079648972,0.0,        17P     14
0,0,2.91526950412,6.15860820934,0.0,7HDOOR 6L,0,0;                    17P     15
110,2.95098209381,7.28634929657,0.0,2.89096394857,                    19P     16
6.1954832077,0.0,0,0;                                                 19P     17
110,2.95098209381,7.28634929657,0.0,2.97104836143,                    21P     18
7.10497304426,0.0,0,0;                                                21P     19
110,2.95098209381,7.28634929657,0.0,2.91113896784,                    23P     20
7.10826918731,0.0,0,0;                                                23P     21
110,2.97104836143,7.10497304426,0.0,2.91113896784,                    25P     22
7.10826918731,0.0,0,0;                                                25P     23
110,3.22573868047,8.48009536082,0.0,3.46320986732,                    27P     24
8.28457527992,0.0,0,0;                                                27P     25
110,3.22573868047,8.48009536082,0.0,3.99514697784,                    29P     26
8.34000845538,0.0,0,0;                                                29P     27
110,3.46320986732,8.28457527992,0.0,4.1303702345,                     31P     28
8.16310475303,0.0,0,0;                                                31P     29
110,3.99514697784,8.34000845538,0.0,4.1303702345,                     33P     30
8.16310475303,0.0,0,0;                                                33P     31
110,4.1303702345,8.16310475303,0.0,5.08637892039,                     35P     32
8.62007487825,0.0,0,0;                                                35P     33
110,5.10599845292,7.69963453746,0.0,4.89834165756,                    37P     34
7.86455860173,0.0,0,0;                                                37P     35
110,5.10599845292,7.69963453746,0.0,4.60185826193,                    39P     36
7.73279196555,0.0,0,0;                                                39P     37
112,3,1,2,1,0.0,0.608479141435,2.81060871347,0.514352604635,          41P     38
```

```
0.352218720157,-0.120523001026,7.94295330381,0.857109739944,            41P     39
-0.221126112778,-0.700113644031E-02,0.0,0.0,0.0,0.0,                    41P     40
3.22683709689,0.492331610595,0.489509022022E-01,                        41P     41
-0.271523249759E-01,8.38103818385,0.353059092907,                       41P     42
-0.866030556195E-01,-0.157726848992E-02,0.0,0.0,0.0,0.0,0,0;            41P     43
112,3,1,2,1,0.0,0.589326159213,3.22573868047,0.808554380552,            43P     44
0.11684643206,0.0,8.48009536082,0.603137803668,                         43P     45
-0.222408241566,0.0,0.0,0.0,0.0,0.0,3.74282231578,                      43P     46
0.557665023012,0.405813877033E-01,0.0,8.7582966801 9,                   43P     47
0.200957753436,-0.772435659376E-01,0.0,0.0,0.0,0.0,0.0,0,0;             43P     48
112,3,1,2,1,0.0,0.93414422702,3.7938613754,0.550449517515,              45P     49
0.463479917274,-0.213538068179,8.62262887343,0.906232049983,            45P     50
-0.601583445657,0.272083906776,0.0,0.0,0.0,0.0,4.53843771213,           45P     51
0.800886166798,-0.117757437549,-0.174067267614,9.16601467133,           45P     52
0.462011535103,0.140417114354,0.221791377146,0.0,0.0,0.0,0.0,           45P     53
0,0;                                                                    45P     54
112,3,1,2,1,0.0,0.800012319783,3.7938613754,0.964069858511,             47P     55
-0.16754687591,0.0,8.62262887343,0.300537980611,                        47P     56
0.293785282217,0.0,0.0,0.0,0.0,0.0,4.4578958361,                        47P     57
0.556801157473,-0.107233303234,0.0,9.05109133214,                       47P     58
0.616490830366,0.188028371657,0.0,0.0,0.0,0.0,0.0,0,0;                  47P     59
112,3,1,2,1,0.0,1.30061378553,3.7938613754,                             49P     60
-0.850498133386E-01,2.00551984128,-0.974130470749,                      49P     61
8.62262887343,-1.05933637228,1.67999739109,-0.637201343021,             49P     62
0.0,0.0,0.0,0.0,4.93257673142,0.244850206564,-3.03706261462,            49P     63
-2.14319746516,8.68480342986,0.100221413014,-1.36386833257,             49P     64
-1.40191518915,0.0,0.0,0.0,0.0,0,0;                                     49P     65
112,3,1,2,1,0.0,1.88059644568,1.38868739952,0.424550525053,             51P     66
0.259915847787,-0.511898309345E-01,6.61438144203,                       51P     67
0.849039821024,-0.137739589024,0.206399675294E-01,0.0,0.0,0.0,          51P     68
0.0,2.76586169397,1.61547690507,-0.102160864814,                        51P     69
-0.340463475423,7.86122334721,1.03425892841,                            51P     70
-0.753065890709E-01,0.1372763877,0.0,0.0,0.0,0.0,0,0;                   51P     71
112,3,1,2,1,0.0,0.691157365894,2.76586169397,0.877267771864,            53P     72
-0.301264114574E-01,-0.545211229145E-01,7.86122334721,                  53P     73
0.561643452045,-0.222073030796E-01,0.219831592736E-01,0.0,0.0,          53P     74
0.0,0.0,3.33979947684,0.523544525518,-0.683942151702E-01,               53P     75
-0.180009578244E-01,8.2460570269,0.388741416743,                        53P     76
0.111658033251E-01,0.725806626455E-02,0.0,0.0,0.0,0.0,0,0;              53P     77
112,3,1,2,1,0.0,0.691226278488,5.10599845292,0.933218880369,            55P     78
-0.117617407626E-01,-0.307001470268E-02,7.69963453746,                  55P     79
0.364506316709,0.214529813889E-01,0.783057530248E-02,0.0,0.0,           55P     80
0.0,0.0,5.74443026605,0.630784298417,-0.866142883675E-02,               55P     81
-0.101391413290E-02,7.96442713711,0.280215008573,                       55P     82
0.180085629750E-01,0.258615405360E-02,0.0,0.0,0.0,0.0,0,0;              55P     83
112,3,1,2,1,0.0,1.21342098273,4.40223178579,0.91922720332,              57P     84
0.152619289395E-02,-0.505298405105E-02,7.64359930503,                   57P     85
0.411987534137,-0.595853378827E-02,0.120037666357E-02,0.0,0.0,          57P     86
0.0,0.0,5.51086070369,1.092820449,-0.248362792891E-01,                  57P     87
-0.902781039294E-02,8.13688496351,0.488801626771,                       57P     88
-0.233940334043E-02,0.214462836402E-02,0.0,0.0,0.0,0.0,0,0;             57P     89
112,3,1,2,1,0.0,0.218674953992,4.20281272236,0.911141248302,            59P     90
0.474668575679E-02,-0.494298761367E-02,7.55387341486,                   59P     91
0.411712569435,-0.664207894997E-02,0.117424611376E-02,0.0,0.0,          59P     92
0.0,0.0,4.40223178579,0.199542668671,0.719176084154E-04,                59P     93
-0.516876341020E-04,7.64359930503,0.894328319747E-01,                   59P     94
-0.280779387877E-03,0.122788095414E-04,0.0,0.0,0.0,0.0,0,0;             59P     95
110,4.19909847225,7.59042248844,0.0,4.22995513997,                      61P     96
7.28678579574,0.0,0,0;                                                  61P     97
110,4.07740280443,7.38127280807,0.0,4.03956734688,                      63P     98
7.68538229875,0.0,0,0;                                                  63P     99
0,-0.2262994093,0.974057789533,0.0,0.0,0.974057789533,                  65P    100
0.2262994093,0.0,0.0,0.0,0.0,-1.0,0.0,0,0;                              65P    101
100,0.0,4.72744,8.00896,4.01308,8.15702,4.04615,                        67P    102
7.74805,0,0;                                                            67P    103
110,4.01308185211,8.15702424214,0.0,3.43370182056,                      69P    104
```

```
7.92044347105,0.0,0,0;                                                69P    105
110,3.63622402223,7.83893704655,0.0,3.99194882553,                    71P    106
7.98313884566,0.0,0,0;                                                71P    107
110,3.49268150104,7.51439100256,0.0,4.04614978419,                    73P    108
7.74804845382,0.0,0,0;                                                73P    109
110,4.01701787124,7.49055304444,0.0,3.97758522049,                    75P    110
7.32258374085,0.0,0,0;                                                75P    111
110,4.00230125803,7.65284063066,0.0,4.01701787124,                    77P    112
7.49055304444,0.0,0,0;                                                77P    113
110,3.96922609409,7.33717659979,0.0,3.86616805498,                    79P    114
7.43766069352,0.0,0,0;                                                79P    115
110,4.06232446142,7.28713266959,0.0,4.05562020653,                    81P    116
7.25719928805,0.0,0,0;                                                81P    117
110,3.94921410324,7.24056458266,0.0,3.90581867241,                    83P    118
7.09135472175,0.0,0,0;                                                83P    119
0,                                                                    85P    120
0,                                                                    85P    121
0;                                                                    85P    122
0,                                                                    87P    123
0,                                                                    87P    124
0;                                                                    87P    125
124,0.822707872394,0.568464384725,0.0,3.95000949597,                  89P    126
-0.568464384725,0.822707872394,0.0,7.07740599738,0.0,0.0,             89P    127
1.0,0.0,0,0;                                                          89P    128
104,2.45896973343,0.0,0.541030266574,0.0,0.0,                         91P    129
-0.420764657064E-02,0.0,0.244755907566E-01,                           91P    130
-0.710943841851E-01,-0.488729111792E-02,0.875702038635E-01,0,0;       91P    131
124,0.822707872394,0.568464384725,0.0,4.03714209389,                  93P    132
-0.568464384725,0.822707872394,0.0,7.03493684255,0.0,0.0,             93P    133
1.0,0.0,0,0;                                                          93P    134
104,2.45896973343,0.0,0.541030266574,0.0,0.0,                         95P    135
-0.168305862825E-01,0.0,0.589429375971E-02,-0.175927530198,           95P    136
-0.977458223580E-02,0.175140407727,0,0;                               95P    137
104,2.45896973343,0.0,0.541030266574,0.0,0.0,                         97P    138
-0.168305862826E-01,0.0,0.489511815131E-01,-0.14218876837,            97P    139
-0.977458223584E-02,0.175140407727,0,0;                               97P    140
112,3,1,2,1,0.0,2.05459638264,3.35844725991,-0.882935710955,          99P    141
-0.368798468698E-01,0.0,7.16184893794,-0.424181962002,                99P    142
0.767654844687E-01,0.0,0.0,0.0,0.0,0.0,1.38868739952,                 99P    143
-2.12544320296,-0.155683342562,0.0,6.61438144203,                     99P    144
-0.223412267112,0.324055228799,0.0,0.0,0.0,0.0,0.0,0,0;               99P    145
100,0.0,3.28526,7.46766,2.67602,7.60821,2.72503,                     101P    146
7.19005,0,0;                                                         101P    147
110,3.28991368897,7.43079825623,0.0,2.72502804771,                   103P    148
7.19005116966,0.0,0,0;                                               103P    149
110,2.68947372936,7.59685723891,0.0,2.86959723605,                   105P    150
7.46076209321,0.0,0,0;                                               105P    151
110,2.67601689973,7.60820534781,0.0,3.26049186278,                   107P    152
7.84802615234,0.0,0,0;                                               107P    153
110,2.86951436863,7.46037242197,0.0,2.82500314829,                   109P    154
7.25106527966,0.0,0,0;                                               109P    155
110,2.87034744677,7.46019525972,0.0,3.23463230518,                   111P    156
7.60433804626,0.0,0,0;                                               111P    157
110,2.98904985523,7.67129767228,0.0,3.14293088214,                   113P    158
7.73443788188,0.0,0,0;                                               113P    159
110,3.00127578718,7.64475569194,0.0,3.15515681409,                   115P    160
7.70789590155,0.0,0,0;                                               115P    161
110,3.21514800111,7.66175689384,0.0,3.06444058941,                   117P    162
7.59874875295,0.0,0,0;                                               117P    163
110,3.00127578718,7.64475569194,0.0,3.06444058941,                   119P    164
7.59874875295,0.0,0,0;                                               119P    165
110,2.99092211927,7.69893344452,0.0,2.98904985523,                   121P    166
7.67129767228,0.0,0,0;                                               121P    167
110,3.13908420749,7.75972706862,0.0,2.99092211927,                   123P    168
7.69893344452,0.0,0,0;                                               123P    169
100,0.0,4.04568296668,7.15966626021,4.22995513997,                   125P    170
```

```
7.28678579574,4.07740280443,7.38127280807,0,0;                  125P    171
110,3.96587729329,7.25325155362,0.0,3.96946468192,              127P    172
7.27170894248,0.0,0,0;                                          127P    173
110,3.97997722899,7.66837958167,0.0,3.22581091565,              129P    174
7.33611397712,0.0,0,0;                                          129P    175
100,0.0,3.97022,7.38623,4.19910,7.59042,4.03724,                131P    176
7.68554,0,0;                                                    131P    177
110,3.87129598587,7.44432656031,0.0,3.76453118153,              133P    178
7.55908587333,0.0,0,0;                                          133P    179
110,3.49579919375,7.80996154339,0.0,3.43391875704,              135P    180
7.78487678624,0.0,0,0;                                          135P    181
110,3.61173116388,7.85695741917,0.0,3.68781308514,              137P    182
7.88779909741,0.0,0,0;                                          137P    183
110,3.56391021322,7.77480031082,0.0,3.63419635854,              139P    184
7.80181971906,0.0,0,0;                                          139P    185
110,3.5429504875,7.80785282197,0.0,3.61323663282,               141P    186
7.83487223022,0.0,0,0;                                          141P    187
110,3.61323663282,7.83487223022,0.0,3.63419635854,              143P    188
7.80181971906,0.0,0,0;                                          143P    189
110,3.58846120814,7.85853390854,0.0,3.61323663282,              145P    190
7.83487223022,0.0,0,0;                                          145P    191
110,3.44655848055,7.9032114258,0.0,3.64863928831,               147P    192
7.98769935274,0.0,0,0;                                          147P    193
100,0.0,3.79164605621,7.98614574695,3.64863928831,              149P    194
7.98769935274,3.68781308514,7.88779909741,0,0;                  149P    195
110,3.51737299954,7.8322805079,0.0,3.58846120814,               151P    196
7.85853390854,0.0,0,0;                                          151P    197
110,3.50974491599,7.80075221456,0.0,3.51660449459,              153P    198
7.83301446573,0.0,0,0;                                          153P    199
124,-0.822707872405,0.568464384709,0.0,3.95000949597,           155P    200
0.568464384709,0.822707872405,0.0,7.07740599738,0.0,0.0,-1.0,   155P    201
0.0,0,0;                                                        155P    202
104,2.45896973342,0.0,0.541030266577,0.0,0.0,                   157P    203
-0.420764657030E-02,0.0,-0.488729111784E-02,                    157P    204
-0.875702038597E-01,0.389627241056E-01,-0.296209303115E-01,0,   157P    205
0;                                                              157P    206
110,3.56074136658,7.75989646145,0.0,3.56391021322,              159P    207
7.77480031082,0.0,0,0;                                          159P    208
110,3.5429504875,7.80785282197,0.0,3.56391021322,               161P    209
7.77480031082,0.0,0,0;                                          161P    210
110,3.56074136658,7.75989646145,0.0,3.50974491599,              163P    211
7.80075221456,0.0,0,0;                                          163P    212
110,3.6310275119,7.78691586969,0.0,3.63419635854,               165P    213
7.80181971906,0.0,0,0;                                          165P    214
110,3.56074136658,7.75989646145,0.0,3.6310275119,               167P    215
7.78691586969,0.0,0,0;                                          167P    216
110,3.51660449459,7.83301446573,0.0,3.5429504875,               169P    217
7.80785282197,0.0,0,0;                                          169P    218
110,3.43848054238,7.7494813944,0.0,3.50351606543,               171P    219
7.77779989847,0.0,0,0;                                          171P    220
100,0.0,4.13267516977,7.81466063885,3.43370182056,              173P    221
7.92044347105,3.49268150104,7.51439100256,0,0;                  173P    222
100,0.0,4.06672543897,7.69522832406,3.26049186278,              175P    223
7.84802615234,3.28991368897,7.43079825623,0,0;                  175P    224
110,3.21789628276,7.70232322644,0.0,3.21514800111,              177P    225
7.66175689384,0.0,0,0;                                          177P    226
110,3.13908420749,7.75972706862,0.0,3.21789628276,              179P    227
7.70232322644,0.0,0,0;                                          179P    228
110,3.13908420749,7.75972706862,0.0,3.14293088214,              181P    229
7.73443788188,0.0,0,0;                                          181P    230
110,3.14293088214,7.73443788188,0.0,3.15515681409,              183P    231
7.70789590155,0.0,0,0;                                          183P    232
110,3.15515681409,7.70789590155,0.0,3.21530576581,              185P    233
7.66408559811,0.0,0,0;                                          185P    234
110,2.98904985523,7.67129767228,0.0,3.00127578718,              187P    235
7.64475569194,0.0,0,0;                                          187P    236
```

```
100,0.0,3.44870295285,7.49013625251,3.22594826788,                   189P    237
7.33617449086,3.35462033211,7.23622222335,0,0;                       189P    238
110,3.35462033211,7.23622222335,0.0,3.80689330111,                   191P    239
7.42531294398,0.0,0,0;                                               191P    240
112,3,1,2,1,0.0,0.566967445147,3.35844725991,0.896023700235,         193P    241
0.189061626394E-01,-0.505639148805E-02,7.16184893794,                193P    242
0.430469723276,-0.100897997044E-01,0.120118614437E-02,0.0,0.0,       193P    243
0.0,0.0,3.87161941156,0.517406493338,0.331279984627E-02,             193P    244
-0.921541843963E-03,7.40288678964,0.238232303792,                    193P    245
-0.258662828585E-02,0.218919618278E-03,0.0,0.0,0.0,0.0,0,0;          193P    246
110,3.72106974823,7.53865353232,0.0,3.83915311129,                   195P    247
7.41845353075,0.0,0,0;                                               195P    248
110,3.85125966664,7.42464415858,0.0,3.94934753956,                   197P    249
7.31982290233,0.0,0,0;                                               197P    250
100,0.0,3.86003,7.42542,3.87130,7.44433,3.83915,                     199P    251
7.41845,0,0;                                                         199P    252
110,3.95698275944,7.28491912962,0.0,3.9660157186,                    201P    253
7.31469474646,0.0,0,0;                                               201P    254
110,3.94305108978,7.08883230568,0.0,4.0000202755,                    203P    255
7.24875144207,0.0,0,0;                                               203P    256
104,2.45896973343,0.0,0.541030266572,0.0,0.0,                        205P    257
-0.168305862822E-01,0.0,-0.977458223411E-02,-0.175140407723,         205P    258
0.744538135736E-01,0.769019752249E-01,0,0;                           205P    259
110,3.94562263552,6.88529094846,0.0,3.85849003761,                   207P    260
6.9277601033,0.0,0,0;                                                207P    261
100,0.0,3.92411966591,7.0854407431,3.90581867241,                    209P    262
7.09135472175,3.94305108978,7.08883230568,0,0;                       209P    263
0,                                                                   211P    264
0;                                                                   211P    265
110,4.03398901889,7.25798734429,0.0,4.0254312987,                    213P    266
7.23519035191,0.0,0,0;                                               213P    267
110,4.0451687493,7.22549365752,0.0,4.13230134722,                    215P    268
7.18302450269,0.0,0,0;                                               215P    269
110,4.0000202755,7.24875144207,0.0,4.02518272537,                    217P    270
7.23272876551,0.0,0,0;                                               217P    271
100,0.0,3.98286,7.19347,4.00002,7.24875,3.94921,                     219P    272
7.24056,0,0;                                                         219P    273
100,0.0,3.99344,7.22586,4.03399,7.25799,3.96946,                     221P    274
7.27171,0,0;                                                         221P    275
110,4.07677224176,7.37196531398,0.0,4.05098529205,                   223P    276
7.29763238281,0.0,0,0;                                               223P    277
100,0.0,3.99163,7.22216,4.06232,7.28713,3.96602,                     225P    278
7.31469,0,0;                                                         225P    279
100,0.0,3.98493,7.19223,4.05562,7.25720,3.95931,                     227P    280
7.28476,0,0;                                                         227P    281
100,0.0,3.96037,7.32726,3.96923,7.33718,3.94935,                     229P    282
7.31982,0,0;                                                         229P    283
110,4.01902893587,7.48574291856,0.0,4.0609114388,                    231P    284
7.48290546921,0.0,0,0;                                               231P    285
110,3.8841884276,7.46215355187,0.0,3.98787037609,                    233P    286
7.50889366307,0.0,0,0;                                               233P    287
110,3.98325607226,7.54426773316,0.0,3.88608011562,                   235P    288
7.49007603416,0.0,0,0;                                               235P    289
110,3.98384175892,7.65643306664,0.0,3.8730658563,                    237P    290
7.50498181613,0.0,0,0;                                               237P    291
110,3.99962157337,7.61328683199,0.0,3.88221575107,                   239P    292
7.50202499018,0.0,0,0;                                               239P    293
110,6.4,2.73753929138,0.0,0.6,2.73753929138,0.0,0,0;                 241P    294
110,6.4,1.63753986359,0.0,6.4,2.73753929138,0.0,0,0;                 243P    295
110,0.6,2.46003929138,0.0,6.4,2.46003929138,0.0,0,0;                 245P    296
110,5.4,1.63753986359,0.0,5.4,2.46003929138,0.0,0,0;                 247P    297
110,0.6,2.21953929138,0.0,6.4,2.21953929138,0.0,0,0;                 249P    298
110,2.1,1.63753986359,0.0,2.1,2.46003929138,0.0,0,0;                 251P    299
110,1.6,1.63753986359,0.0,1.6,2.46003929138,0.0,0,0;                 253P    300
110,0.6,2.73753929138,0.0,0.6,1.63753986359,0.0,0,0;                 255P    301
212,1,3,0.167733333333,0.737499967217E-01,1,1.57079648972,0.0,       257P    302
```

```
0,0,5.80224479251,2.30822540447,0.0,3HBUS,0,0;                          257P    303
212,1,37,3.13194430967,0.972222205665E-01,1,1.57079648972,0.0,          259P    304
0,0,1.93479881667,2.5579686703,0.0,37HESSENTIAL CIRCUIT BREAKER         259P    305
PANEL NO. 1,0,0;                                                        259P    306
212,1,12,0.670833333333,0.737499967217E-01,1,1.57079648972,             261P    307
0.0,0,0,3.44232238346,2.30822254345,0.0,12HNOMENCLATURE,0,0;            261P    308
212,1,7,0.391377777778,0.737499967217E-01,1,1.57079648972,0.0,          263P    309
0,0,0.910783360534,2.30822635815,0.0,7HREF DES,0,0;                     263P    310
212,1,4,0.223644444444,0.737499967217E-01,1,1.57079648972,0.0,          265P    311
0,0,1.72757781559,2.30822540447,0.0,4HZONE,0,0;                         265P    312
212,1,8,0.753955526416,0.972222205665E-01,1,1.57079648972,0.0,          267P    313
0,0,0.695005950663,2.55797248499,0.0,8H52Z-C007,0,0;                    267P    314
212,3,13,0.726744444444,0.737499967217E-01,1,1.57079648972,             269P    315
0.0,0,0,2.23292983585,2.05118633434,0.0,13HR MLG WOW PWR,13,            269P    316
0.726744444444,0.737499967217E-01,1,1.57079648972,0.0,0,0,              269P    317
2.23292983585,1.91229744545,0.0,13HL MLG WOW PWR,14,                    269P    318
0.782755555556,0.737499967217E-01,1,1.57079648972,0.0,0,0,              269P    319
2.23292983585,1.77340855656,0.0,14HLDG GR POS IND,0,0;                  269P    320
110,0.6,1.63753986359,0.0,6.4,1.63753986359,0.0,0,0;                    271P    321
212,3,2,0.111822222222,0.737499967217E-01,1,1.57079648972,              273P    322
0.0,0,0,1.77439464145,2.05118633434,0.0,2HL1,2,                         273P    323
0.111822222222,0.737499967217E-01,1,1.57079648972,0.0,0,0,              273P    324
1.77439464145,1.91229744545,0.0,2HM1,2,0.111822222222,                  273P    325
0.737499967217E-01,1,1.57079648972,0.0,0,0,1.77439464145,               273P    326
1.77340855656,0.0,2HN1,0,0;                                             273P    327
212,3,8,0.447288888889,0.737499967217E-01,1,1.57079648972,0.0,          275P    328
0,0,0.851796756321,2.05118633434,0.0,8H41CBC033,8,                      275P    329
0.447288888889,0.737499967217E-01,1,1.57079648972,0.0,0,0,              275P    330
0.851796756321,1.91229744545,0.0,8H41CBC034,8,0.447288888889,           275P    331
0.737499967217E-01,1,1.57079648972,0.0,0,0,0.851796756321,              275P    332
1.77340855656,0.0,8H42CBC005,0,0;                                       275P    333
212,3,5,0.279655555556,0.737499967217E-01,1,1.57079648972,0.0,          277P    334
0,0,4.99522365146,2.05118633434,0.0,5H28VDC,5,0.279655555556,           277P    335
0.737499967217E-01,1,1.57079648972,0.0,0,0,4.99522365146,               277P    336
1.91229744545,0.0,5H28VDC,5,0.279655555556,0.737499967217E-01,          277P    337
1,1.57079648972,0.0,0,0,4.99522365146,1.77340855656,0.0,5H28VDC,        277P    338
0,0;                                                                    277P    339
212,3,9,0.5031,0.737499967217E-01,1,1.57079648972,0.0,0,0,              279P    340
5.64113391452,2.05118633434,0.0,9HESS 28VDC,9,0.5031,                   279P    341
0.737499967217E-01,1,1.57079648972,0.0,0,0,5.64113391452,               279P    342
1.91229744545,0.0,9HESS 28VDC,9,0.5031,0.737499967217E-01,1,            279P    343
1.57079648972,0.0,0,0,5.64113391452,1.77340855656,0.0,9HESS 28VD        279P    344
C,0,0;                                                                  279P    345
212,1,10,0.559011111111,0.737499967217E-01,1,1.57079648972,             281P    346
0.0,0,0,5.62985862308,2.56970764324,0.0,10H(24-50-12),0,0;              281P    347
110,4.70588709214,5.27583267886,0.0,4.87115087145,                      283P    348
5.59221722308,0.0,0,0;                                                  283P    349
110,4.87796913147,5.65999675751,0.0,4.87796913147,                      285P    350
5.61999675751,0.0,0,0;                                                  285P    351
100,0.0,4.81797,5.62000,4.87115,5.59222,4.87797,                        287P    352
5.62000,0,0;                                                            287P    353
110,4.87796913147,5.65999675751,0.0,2.30484413147,                      289P    354
5.65999675751,0.0,0,0;                                                  289P    355
110,4.80796913147,5.25999675751,0.0,4.80796913147,                      291P    356
5.04999675751,0.0,0,0;                                                  291P    357
110,4.72796913147,5.30999675751,0.0,4.80796913147,                      293P    358
5.30999675751,0.0,0,0;                                                  293P    359
110,4.72796913147,5.25999675751,0.0,4.80796913147,                      295P    360
5.25999675751,0.0,0,0;                                                  295P    361
110,4.72796913147,5.3181070113,0.0,4.72796913147,                       297P    362
5.01499675751,0.0,0,0;                                                  297P    363
110,4.80796913147,5.04999675751,0.0,4.72796913147,                      299P    364
5.04999675751,0.0,0,0;                                                  299P    365
110,4.69796913147,5.24229165919,0.0,4.69796913147,                      301P    366
4.07333267886,0.0,0,0;                                                  301P    367
110,4.69796913147,4.94333267886,0.0,2.31796913147,                      303P    368
```

```
4.94333267886,0.0,0,0;                                                    303P     369
100,0.0,4.77297,5.24239,4.70589,5.27583,4.69797,                          305P     370
5.24229,0,0;                                                              305P     371
110,4.70296913147,4.98999675751,0.0,4.69796913147,                        307P     372
4.98999675751,0.0,0,0;                                                    307P     373
100,0.0,4.70297,5.01500,4.70297,4.99000,4.72797,                          309P     374
5.01500,0,0;                                                              309P     375
110,2.31796913147,5.25583267886,0.0,4.69920165363,                        311P     376
5.25583267886,0.0,0,0;                                                    311P     377
110,2.25796913147,5.23583267886,0.0,2.25796913147,                        313P     378
4.96333267886,0.0,0,0;                                                    313P     379
100,0.0,2.29797,5.25583,2.29797,5.23583,2.29797,                          315P     380
5.27583,0,0;                                                              315P     381
110,4.80796913147,5.30999675751,0.0,4.80796913147,                        317P     382
5.47126073709,0.0,0,0;                                                    317P     383
100,0.0,4.40119134108,5.41365748358,4.44919134108,                        319P     384
5.41365748358,4.44919134108,5.41365748358,0,0;                            319P     385
100,0.0,4.26096118325,5.41365748358,4.30896118325,                        321P     386
5.41365748358,4.30896118325,5.41365748358,0,0;                            321P     387
100,0.0,4.12073102542,5.41365748358,4.16873102542,                        323P     388
5.41365748358,4.16873102542,5.41365748358,0,0;                            323P     389
100,0.0,3.98050086759,5.41365748358,4.02850086759,                        325P     390
5.41365748358,4.02850086759,5.41365748358,0,0;                            325P     391
100,0.0,3.84027070976,5.41365748358,3.88827070976,                        327P     392
5.41365748358,3.88827070976,5.41365748358,0,0;                            327P     393
100,0.0,3.70004055193,5.41365748358,3.74804055193,                        329P     394
5.41365748358,3.74804055193,5.41365748358,0,0;                            329P     395
100,0.0,3.5598103941,5.41365748358,3.6078103941,5.41365748358,            331P     396
3.6078103941,5.41365748358,0,0;                                           331P     397
100,0.0,3.41958023627,5.41365748358,3.46758023627,                        333P     398
5.41365748358,3.46758023627,5.41365748358,0,0;                            333P     399
100,0.0,3.27935007845,5.41365748358,3.32735007845,                        335P     400
5.41365748358,3.32735007845,5.41365748358,0,0;                            335P     401
100,0.0,3.13911992062,5.41365748358,3.18711992062,                        337P     402
5.41365748358,3.18711992062,5.41365748358,0,0;                            337P     403
100,0.0,2.99888976279,5.41365748358,3.04688976279,                        339P     404
5.41365748358,3.04688976279,5.41365748358,0,0;                            339P     405
100,0.0,2.85865960496,5.41365748358,2.90665960496,                        341P     406
5.41365748358,2.90665960496,5.41365748358,0,0;                            341P     407
100,0.0,2.5781992893,5.41365748358,2.6261992893,5.41365748358,            343P     408
2.6261992893,5.41365748358,0,0;                                           343P     409
110,2.29796913147,5.27583267886,0.0,2.25796913147,                        345P     410
5.27583267886,0.0,0,0;                                                    345P     411
110,2.29796913147,5.23583267886,0.0,2.25796913147,                        347P     412
5.23583267886,0.0,0,0;                                                    347P     413
100,0.0,2.43796913147,5.41365748358,2.48596913147,                        349P     414
5.41365748358,2.48596913147,5.41365748358,0,0;                            349P     415
100,0.0,2.71842944713,5.41365748358,2.76642944713,                        351P     416
5.41365748358,2.76642944713,5.41365748358,0,0;                            351P     417
110,4.69796913147,4.07333267886,0.0,2.30484413147,                        353P     418
4.07333267886,0.0,0,0;                                                    353P     419
100,0.0,4.33107626217,4.22333267886,4.37907626217,                        355P     420
4.22333267886,4.37907626217,4.22333267886,0,0;                            355P     421
100,0.0,4.19084610434,4.22333267886,4.23884610434,                        357P     422
4.22333267886,4.23884610434,4.22333267886,0,0;                            357P     423
100,0.0,3.91038578868,4.22333267886,3.95838578868,                        359P     424
4.22333267886,3.95838578868,4.22333267886,0,0;                            359P     425
100,0.0,3.77015563085,4.22333267886,3.81815563085,                        361P     426
4.22333267886,3.81815563085,4.22333267886,0,0;                            361P     427
100,0.0,4.05061594651,4.22333267886,4.09861594651,                        363P     428
4.22333267886,4.09861594651,4.22333267886,0,0;                            363P     429
100,0.0,3.62992547302,4.22333267886,3.67792547302,                        365P     430
4.22333267886,3.67792547302,4.22333267886,0,0;                            365P     431
100,0.0,4.05061594651,4.45833267886,4.09861594651,                        367P     432
4.45833267886,4.09861594651,4.45833267886,0,0;                            367P     433
100,0.0,4.19084610434,4.45833267886,4.23884610434,                        369P     434
```

```
4.45833267886,4.23884610434,4.45833267886,0,0;                     369P     435
100,0.0,4.47107626217,4.57583267886,4.51907626217,                 371P     436
4.57583267886,4.51907626217,4.57583267886,0,0;                     371P     437
100,0.0,4.33107626217,4.69333267886,4.37907626217,                 373P     438
4.69333267886,4.37907626217,4.69333267886,0,0;                     373P     439
100,0.0,4.19084610434,4.69333267886,4.23884610434,                 375P     440
4.69333267886,4.23884610434,4.69333267886,0,0;                     375P     441
100,0.0,4.05061594651,4.69333267886,4.09861594651,                 377P     442
4.69333267886,4.09861594651,4.69333267886,0,0;                     377P     443
100,0.0,3.77015563085,4.45833267886,3.81815563085,                 379P     444
4.45833267886,3.81815563085,4.45833267886,0,0;                     379P     445
100,0.0,4.33107626217,4.45833267886,4.37907626217,                 381P     446
4.45833267886,4.37907626217,4.45833267886,0,0;                     381P     447
100,0.0,3.91038578868,4.45833267886,3.95838578868,                 383P     448
4.45833267886,3.95838578868,4.45833267886,0,0;                     383P     449
100,0.0,3.20923499953,4.22333267886,3.25723499953,                 385P     450
4.22333267886,3.25723499953,4.22333267886,0,0;                     385P     451
100,0.0,3.0690048417,4.22333267886,3.1170048417,4.22333267886,     387P     452
3.1170048417,4.22333267886,0,0;                                    387P     453
100,0.0,2.92877468387,4.22333267886,2.97677468387,                 389P     454
4.22333267886,2.97677468387,4.22333267886,0,0;                     389P     455
100,0.0,2.78854452604,4.22333267886,2.83654452604,                 391P     456
4.22333267886,2.83654452604,4.22333267886,0,0;                     391P     457
100,0.0,2.64831436821,4.22333267886,2.69631436821,                 393P     458
4.22333267886,2.69631436821,4.22333267886,0,0;                     393P     459
100,0.0,2.50808421038,4.22333267886,2.55608421038,                 395P     460
4.22333267886,2.55608421038,4.22333267886,0,0;                     395P     461
110,2.25796913147,4.92333267886,0.0,2.25796913147,                 397P     462
4.12020767886,0.0,0,0;                                             397P     463
100,0.0,2.36785405256,4.22333267886,2.41585405256,                 399P     464
4.22333267886,2.41585405256,4.22333267886,0,0;                     399P     465
100,0.0,2.25797,4.07333,2.30484,4.07333,2.25797,                   401P     466
4.12021,0,0;                                                       401P     467
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     403P     468
0.0,0,0,2.10804458618,4.17826200897,0.0,1H5,0,0;                   403P     469
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     405P     470
0.0,0,0,2.10804458618,4.41326166565,0.0,1H4,0,0;                   405P     471
100,0.0,2.36785405256,4.45833267886,2.41585405256,                 407P     472
4.45833267886,2.41585405256,4.45833267886,0,0;                     407P     473
100,0.0,2.64831436821,4.45833267886,2.69631436821,                 409P     474
4.45833267886,2.69631436821,4.45833267886,0,0;                     409P     475
100,0.0,2.78854452604,4.45833267886,2.83654452604,                 411P     476
4.45833267886,2.83654452604,4.45833267886,0,0;                     411P     477
100,0.0,2.92877468387,4.45833267886,2.97677468387,                 413P     478
4.45833267886,2.97677468387,4.45833267886,0,0;                     413P     479
100,0.0,2.50808421038,4.45833267886,2.55608421038,                 415P     480
4.45833267886,2.55608421038,4.45833267886,0,0;                     415P     481
100,0.0,2.36785405256,4.69333267886,2.41585405256,                 417P     482
4.69333267886,2.41585405256,4.69333267886,0,0;                     417P     483
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     419P     484
0.0,0,0,2.10804553986,4.648262276,0.0,1H3,0,0;                     419P     485
100,0.0,2.50808421038,4.69333267886,2.55608421038,                 421P     486
4.69333267886,2.55608421038,4.69333267886,0,0;                     421P     487
100,0.0,2.64831436821,4.69333267886,2.69631436821,                 423P     488
4.69333267886,2.69631436821,4.69333267886,0,0;                     423P     489
110,2.7102657769,5.05228199717,0.0,2.65647803844,                  425P     490
4.74063336055,0.0,0,0;                                             425P     491
100,0.0,2.92877468387,4.69333267886,2.97677468387,                 427P     492
4.69333267886,2.97677468387,4.69333267886,0,0;                     427P     493
100,0.0,3.34946515736,4.69333267886,3.39746515736,                 429P     494
4.69333267886,3.39746515736,4.69333267886,0,0;                     429P     495
100,0.0,3.20923499953,4.69333267886,3.25723499953,                 431P     496
4.69333267886,3.25723499953,4.69333267886,0,0;                     431P     497
100,0.0,3.0690048417,4.69333267886,3.1170048417,4.69333267886,     433P     498
3.1170048417,4.69333267886,0,0;                                    433P     499
100,0.0,2.78854452604,4.69333267886,2.83654452604,                 435P     500
```

```
4.69333267886,2.83654452604,4.69333267886,0,0;                              435P    501
110,2.85049593473,5.05228199717,0.0,2.79670819627,                          437P    502
4.74063336055,0.0,0,0;                                                      437P    503
110,2.99072609256,5.05228199717,0.0,2.9369383541,                           439P    504
4.74063336055,0.0,0,0;                                                      439P    505
110,3.13095625039,5.05228199717,0.0,3.07716851193,                          441P    506
4.74063336055,0.0,0,0;                                                      441P    507
110,3.27118640822,5.05228199717,0.0,3.21739866976,                          443P    508
4.74063336055,0.0,0,0;                                                      443P    509
110,3.41141656605,5.05228199717,0.0,3.35762882759,                          445P    510
4.74063336055,0.0,0,0;                                                      445P    511
100,0.0,3.70004055193,5.09958267886,3.74804055193,                          447P    512
5.09958267886,3.74804055193,5.09958267886,0,0;                              447P    513
100,0.0,3.5598103941,5.09958267886,3.6078103941,5.09958267886,              449P    514
3.6078103941,5.09958267886,0,0;                                             449P    515
100,0.0,3.41958023627,5.09958267886,3.46758023627,                          451P    516
5.09958267886,3.46758023627,5.09958267886,0,0;                              451P    517
100,0.0,3.27935007845,5.09958267886,3.32735007845,                          453P    518
5.09958267886,3.32735007845,5.09958267886,0,0;                              453P    519
100,0.0,3.13911992062,5.09958267886,3.18711992062,                          455P    520
5.09958267886,3.18711992062,5.09958267886,0,0;                              455P    521
100,0.0,2.99888976279,5.09958267886,3.04688976279,                          457P    522
5.09958267886,3.04688976279,5.09958267886,0,0;                              457P    523
100,0.0,2.85865960496,5.09958267886,2.90665960496,                          459P    524
5.09958267886,2.90665960496,5.09958267886,0,0;                              459P    525
100,0.0,2.71842944713,5.09958267886,2.76642944713,                          461P    526
5.09958267886,2.76642944713,5.09958267886,0,0;                              461P    527
100,0.0,2.5781992893,5.09958267886,2.6261992893,5.09958267886,              463P    528
2.6261992893,5.09958267886,0,0;                                             463P    529
110,2.57003561907,5.05228199717,0.0,2.51624788061,                          465P    530
4.74063336055,0.0,0,0;                                                      465P    531
110,2.42980546124,5.05228199717,0.0,2.37601772278,                          467P    532
4.74063336055,0.0,0,0;                                                      467P    533
100,0.0,2.29797,4.94333,2.29797,4.92333,2.29797,                            469P    534
4.96333,0,0;                                                                469P    535
100,0.0,2.43796913147,5.09958267886,2.48596913147,                          471P    536
5.09958267886,2.48596913147,5.09958267886,0,0;                              471P    537
110,2.29796913147,4.96333267886,0.0,2.25796913147,                          473P    538
4.96333267886,0.0,0,0;                                                      473P    539
110,2.29796913147,4.92333267886,0.0,2.25796913147,                          475P    540
4.92333267886,0.0,0,0;                                                      475P    541
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              477P    542
0.0,0,0,2.10804553986,5.054512276,0.0,1H2,0,0;                              477P    543
110,2.25796913147,5.27583267886,0.0,2.25796913147,                          479P    544
5.61312175751,0.0,0,0;                                                      479P    545
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              481P    546
0.0,0,0,2.10804553986,5.36858774597,0.0,1H1,0,0;                            481P    547
100,0.0,2.25796913147,5.65999675751,2.25796913147,                          483P    548
5.61312175751,2.30484413147,5.65999675751,0,0;                              483P    549
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              485P    550
0.0,0,0,2.40055274963,5.71786238129,0.0,1HA,0,0;                            485P    551
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              487P    552
0.0,0,0,2.54078197479,5.71786238129,0.0,1HB,0,0;                            487P    553
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              489P    554
0.0,0,0,2.68101215363,5.71786238129,0.0,1HC,0,0;                            489P    555
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              491P    556
0.0,0,0,2.82124233246,5.71786238129,0.0,1HD,0,0;                            491P    557
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              493P    558
0.0,0,0,2.96147251129,5.71786238129,0.0,1HE,0,0;                            493P    559
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              495P    560
0.0,0,0,3.10170269012,5.71786238129,0.0,1HF,0,0;                            495P    561
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              497P    562
0.0,0,0,3.24193286896,5.71786238129,0.0,1HG,0,0;                            497P    563
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              499P    564
0.0,0,0,4.50377368927,5.71786238129,0.0,1HR,0,0;                            499P    565
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,              501P    566
```

```
0.0,0,0,4.36377429962,5.71786238129,0.0,1HQ,0,0;                   501P     567
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     503P     568
0.0,0,0,4.22354412079,5.71786238129,0.0,1HP,0,0;                   503P     569
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     505P     570
0.0,0,0,4.08331394196,5.71786238129,0.0,1HN,0,0;                   505P     571
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     507P     572
0.0,0,0,3.94308376312,5.71786238129,0.0,1HM,0,0;                   507P     573
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     509P     574
0.0,0,0,3.80285358429,5.71786238129,0.0,1HL,0,0;                   509P     575
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     511P     576
0.0,0,0,3.66262340546,5.71786238129,0.0,1HK,0,0;                   511P     577
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     513P     578
0.0,0,0,3.52239322662,5.71786238129,0.0,1HJ,0,0;                   513P     579
212,1,1,0.719000000000E-01,0.901388848821E-01,1,1.57079648972,     515P     580
0.0,0,0,3.38216304779,5.71786238129,0.0,1HH,0,0;                   515P     581
100,0.0,3.91038578868,4.69333267886,3.95838578868,                 517P     582
4.69333267886,3.95838578868,4.69333267886,0,0;                     517P     583
110,4.36784302635,4.4891904988,0.0,4.43430949798,                  519P     584
4.54497485892,0.0,0,0;                                             519P     585
100,0.0,4.47130641999,4.22333267886,4.51930641999,                 521P     586
4.22333267886,4.51930641999,4.22333267886,0,0;                     521P     587
212,1,8,0.759000026226,0.901388848821E-01,1,1.57079648972,0.0,     523P     588
0,0,3.13067740507,3.78854490692,0.0,8H52Z-C007,0,0;                523P     589
110,3.55164672388,5.05228199717,0.0,3.49785898542,                 525P     590
4.74063336055,0.0,0,0;                                             525P     591
100,0.0,3.48969531519,4.69333267886,3.53769531519,                 527P     592
4.69333267886,3.53769531519,4.69333267886,0,0;                     527P     593
212,1,48,2.853333333333,0.737566644812E-01,1,1.57079648972,        529P     594
0.0,0,0,3.4963709259,0.179828651249,0.0,48HCALS Test Network LGT   529P     595
ABLE Reference Illustration,0,0;                                   529P     596
102,3,21,23,                                                       531P     597
25,0,0;                                                            531P     598
102,3,11,13,                                                       533P     599
15,0,0;                                                            533P     600
230,327,1,3.84,5.41,0.0,0.005,0.7854,0,0,0;                        535P     601
230,325,1,3.98,5.41,0.0,0.005,0.7854,0,0,0;                        537P     602
230,323,1,4.12,5.41,0.0,0.005,0.7854,0,0,0;                        539P     603
230,531,1,2.91,7.11,0.0,0.005,0.7854,0,0,0;                        541P     604
230,533,1,3.22,7.46,0.0,0.005,0.7854,0,0,0;                        543P     605
S      8G      4D    544P     605                                     T       1
```

Attachment J

IENTITY Entity Listing and Count

```
** Entity Occurrence Counts **

Entity  Form   Level    Count    Type
------  ----   -----    -----    ----

     0     0       0       37    Null entity
   100     0       0        3    Circular arc
   102     0       0        2    Composite curve
   104     0       0        1    Conic arc - general form
   104     1       0        1    Conic arc - ellipse
   104     2       0        1    Conic arc - hyperbola
   104     3       0        1    Conic arc - parabola
   106    11       0        1    Copious data - Piecewise planar, linear string
   106    63       0        1    Simple closed area
   110     0       0       27    Line
   112     0       0        2    Parametric spline curve
   124     0       0        5    Transformation matrix
   126     0       0        1    Rational B-spline curve
   126     1       0        1    Rational B-spline curve - Line
   126     2       0        1    Rational B-spline curve - Circular arc
   126     3       0        1    Rational B-spline curve - Elliptical arc
   126     4       0        1    Rational B-spline curve - Parabolic arc
   126     5       0        1    Rational B-spline curve - Hyperbolic arc
   212     0       0       39    General note
   212     1       0        1    General note - dual stack dimension
   212     2       0        1    General note - imbedded font change dimension
   212     3       0        1    General note - superscripted dimension
   212     4       0        1    General note - subscripted dimension
   212     5       0        1    General note - super-/sub-scripted dimension
   212     6       0        1    General note - multiple stack/left justified
   212     7       0        1    General note - multiple stack/center justified
   212     8       0        1    General note - multiple stack/right justified
   212   100       0        1    General note - simple fractional dimension
   212   101       0        1    General note - dual stack fractional dimension
   212   102       0        1    General note - imbedded font change/double frac
   212   105       0        1    General note - super-/sub-scripted fractional
   230     0       0        1    Sectioned area
   308     0       0        1    Subfigure definition
   404     0       0        1    Drawing
   406    16       0        1    Property - Drawing size
   406    18       0        1    Intercharacter Spacing
   408     0       0        1    Single subfigure instance
   410     0       0        1    View - Orthographic parallel
   412     0       0        1    Rectangular subfigure instance
   414     0       0        1    Circular subfigure instance
```

Attachment K

LGTABLE Entity Listing and Count

```
** Entity Occurrence Counts **

Entity   Form   Level   Count   Type
------   ----   -----   -----   ----

     0      0       0       4   Null entity
   100      0       0      85   Circular arc
   102      0       0       2   Composite curve
   104      0       0       5   Conic arc - general form
   110      0       0     116   Line
   112      0       0      12   Parametric spline curve
   124      0       0       3   Transformation matrix
   212      0       0      37   General note
   230      0       0       5   Sectioned area
   404      0       0       1   Drawing
   406     16       0       1   Property - Drawing size
   410      0       0       1   View - Orthographic parallel
```